CONSTRUCTION PLANS FOR
RIVER WEST CHOICE NEIGHBORHOODS INITIATIVE
PHASE III & IV

PROJECT NO. CDBG/HUD GRANT & TMUA-W 19-10 P2 & ES2019-11 P2

ACCOUNT NUMBER:

CDBG: 2059FR0002.OTHSVS.PFIMP-20001244-534103

ROADWAY/STORM: 148170.LANDIMP.405-4053122-541103

WATER: 2131W0016Z

SEWER: 2131S0006

LEGEND

- PROPOSED ROAD
- EXISTING ROAD
- 1+00 2+00 CONSTRUCTION REF. LINE (CENTERLINE)
- CONCRETE CURB AND GUTTER
- EXISTING CURB AND GUTTER
- TOP OF CUT OR TOE OF SLOPE
- DRAINAGE STRUCTURES NEW
- DRAINAGE STRUCTURES EXISTING
- LOT LINE
- RIGHT-OF-WAY/PROPERTY LINE
- W WATER LINE
- SS SANITARY SEWER LINE
- SW STORM WATER
- UT UNDERGROUND TELEPHONE
- OE OVERHEAD ELECTRIC
- UE UNDERGROUND ELECTRIC
- G GAS LINE
- CTV CABLE T.V.
- X FENCE
- RAILROAD TRACKS
- 600 FINISH GRADE CONTOURS
- EXISTING GROUND CONTOURS
- +25 +25 PROFILE GRADE LINES
- DRAINAGE AREA BOUNDARY
- DRAINAGE AREA REACH LINE
- FM FORCE MAIN
- TREE LINE
- REGULATORY FLOOD PLAIN BOUNDARY
- SIGN
- FH FIRE HYDRANT
- PP POWER POLE
- LP LIGHT POLE
- DOWN GUY
- SHRUB
- TREE
- TPED TELEPHONE PEDESTAL
- MANHOLE
- WV WATER VALVE
- WATER AIR RELIEF VALVE
- WM WATER METER
- CO SANITARY SEWER CLEAN-OUT
- GM GAS METER

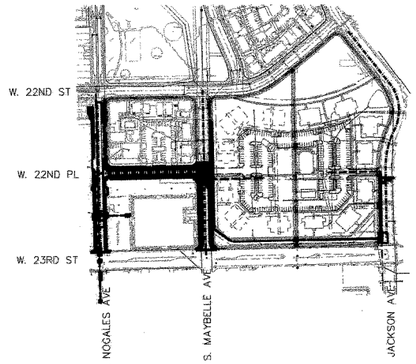
RCP	REINFORCED CONCRETE PIPE
CPP	CORRUGATED PLASTIC PIPE
DGDI	DOUBLE GRATE DROP INLET
DI	DROP INLET - AREA DRAIN
FL	FLOWLINE
CL	CENTERLINE
BL	BUILDING LINE
U/E	UTILITY EASEMENT
D/E	DRAINAGE EASEMENT
RJ	RESTRAINED JOINT
RW	RIGHT-OF-WAY
NTS	NOT TO SCALE

BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

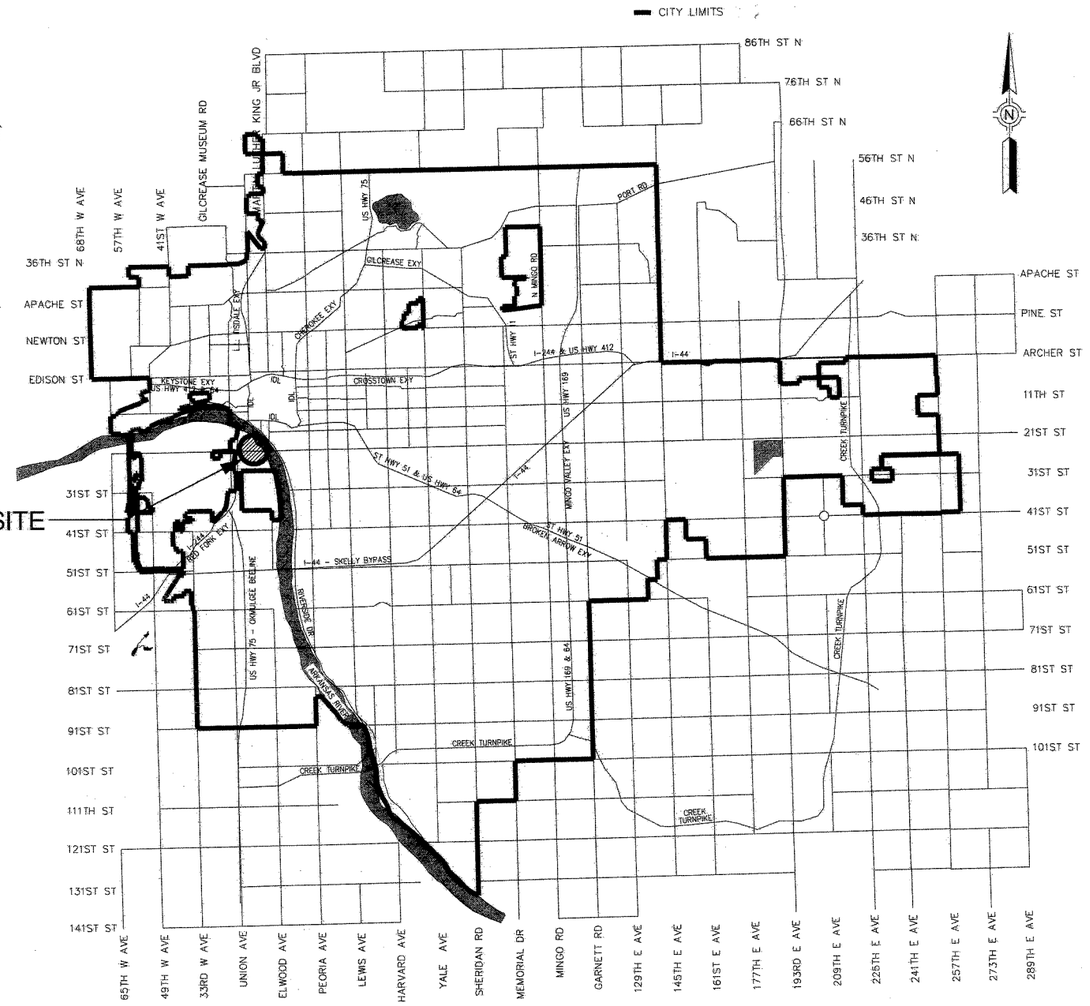
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES



Site Map

SCALE: N.T.S.

PROJECT SITE



Location Map

SCALE: N.T.S.

UTILITY COORDINATION BOX

	NUMBER	NOTIFIED
WATER DESIGN	918-596-9566	
WASTEWATER DESIGN	918-596-9564	
TRANSPORTATION DESIGN	918-596-9636	
TRAFFIC ENGINEERING DESIGN	918-596-9749	
STORMWATER DESIGN	918-596-9498	
COT IT NETWORK SERVICES	918-596-7070	
CALL OKIE WORK ORDER #	800-522-OKIE	
LIST UTILITIES FROM CALL OKIE WORK ORDER #		
OKLAHOMA NATURAL GAS COMPANY	918-831-8387	
AT&T COMMUNICATION INC. (DISTRIBUTION)	918-527-7309	
AT&T COMMUNICATION INC. (TRANSMISSION)	580-931-7688	
COX COMMUNICATIONS	918-830-7238	
AEP/PSO	918-250-6211	
MCI/VERIZON	918-590-5920	
EASYTEL COMMUNICATIONS	918-286-4716	
WELLSCO VALOR TELECOM	479-855-7000	
US CELLULAR	918-693-7035	

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CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF CITY OF TULSA.

PER THE LEASE DOCUMENT NO. 134723 DATED OCTOBER 23, 2019 BETWEEN THE CITY OF TULSA AND TULSA HOUSING AUTHORITY - NOTHING CONTAINED IN THE LEASE OR IN ANY OTHER AGREEMENT BETWEEN THE AUTHORITY AND THE CITY, OR ANY OTHER THIRD PARTY, NOR ANY ACT OF HUD, SHALL BE DEEMED OR CONSTRUED TO CREATE ANY RELATIONSHIP OF THIRD PARTY BENEFICIARY, PRINCIPAL AND AGENT, LIMITED OR GENERAL PARTNERSHIP, JOINT VENTURE, OR ANY ASSOCIATION OR RELATIONSHIP INVOLVING HUD, EXCEPT BETWEEN HUD AND THE AUTHORITY AS WILL BE PROVIDED UNDER THE TERMS OF THE ANNUAL CONTRIBUTION CONTRACT.

TULSA HOUSING AUTHORITY SHALL BE SHOWN AS ADDITIONAL INSURED ON ALL INSURANCE CERTIFICATES FOR THIS PROJECT.

APPROVED BY

CITY ENGINEER DATE

ADVERTISE DATE: NOVEMBER 20, 2020

PREPARED BY:

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

11/18/2020

JORDAN RODICH, PE NO 26548

wallace

WALLACE ENGINEERING
STRUCTURAL CONSULTANTS,INC
123 N MARTIN LUTHER KING JR BLVD
TULSA,OK 74103
(918) 584-5858
OKLAHOMA CA #1460
EXP DATE 6/30/21

PROJECT NO CDBG/HUD GRANT & TMUA-W 19-10 P2 & ES2019-11 P2: RIVER WEST CNI PHASE 3 & 4

CITY OF TULSA STANDARD DRAWINGS

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764 - STANDARD REINFORCED CONCRETE STORMWATER INLETS
765 - STANDARD STORMWATER FRAMES
766 - STANDARD STORMWATER GRATES
767 - STANDARD CAST IRON CURB
770 - STANDARD DROP INLET 15", 18", AND 24"
772 - STANDARD DROP INLET 48" PIPE
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790 - STANDARD SIDEWALK RAMP

ODOT STANDARD DRAWINGS

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SSA1-1	TCS7-1	TSC1-3	SMD-4

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THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

STREET	DESIGN SPEED	LENGTH (FT)	LENGTH (MILES)	LENGTH (LANE MILES)
W 22ND PL S	25	418	0.08	0.16
S MAYBELLE AVE	25	350	0.07	0.13
S NOGALES AVE	25	576	0.11	0.22
	TOTAL	1344	0.26	0.51

SURVEY DATA

1. HORIZONTAL CONTROL:
   A. OKLAHOMA STATE PLANE COORDINATE SYSTEM, LAMBERT PROJECTION, NORTH ZONE. (NAD83)
   B. ACCURACY - 3RD ORDER OR BETTER.
2. BEARINGS:
   A. THE BEARINGS SHOWN HEREIN ARE GRID BEARINGS DERIVED FROM THE OKLAHOMA STATE PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL.
3. VERTICAL CONTROL:
   A. LEVEL DATUM IS NAVD 1988
   B. ACCURACY - 3RD ORDER OR BETTER.

ADS BENCHMARK # GPS 7

1/2" REBAR - 2" ALUMINUM CAP - FLUSH - STAMPED "ODOT GPS 7",
SET WEST OF HWY 75, AND ON THE SOUTH SIDE OF 31ST ST.
N 413225.395, E 2556370.926, ELEV 635.514 (NAVD 1988)

ADS BENCHMARK # GPS 76

5/8" REBAR - 1 1/2" ALUMINUM CAP - FLUSH - SET IN CONCRETE - STAMPED "76",
SET ON THE SOUTH SIDE OF 21ST ST. APPROX. 350' WEST OF S 33RD W. AVE.
N 418453.091, E 2550059.135, ELEV 639.573 (NAVD 1988)

SITE BENCHMARKS

BENCHMARK 1
CHISELED SQUARE
N: 417667.574
E: 2559185.253
ELEV: 631.551
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

BENCHMARK 2
CHISELED SQUARE
N: 417662.539
E: 2558852.597
ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 3
CHISELED SQUARE
N: 417434.527
E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

BENCHMARK 4
CHISELED SQUARE
N: 418034.225
E: 2558919.468
ELEV: 632.162
(LOCATED ON THE SOUTH CURB OF THE NORTH PARKING LOT)

BENCHMARK 5
CHISELED SQUARE
N: 417249.121
E: 2559207.250
ELEV: 636.393
(LOCATED ON THE SOUTH CURB OF THE FIRST DRIVEWAY ON THE WEST SIDE OF S JACKSON AVE SOUTH OF W 23RD ST)

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)

BENCHMARK 10
SSMH LID
N: 417464.378
E: 2559210.585
ELEV: 635.450
(LOCATED ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020
OKLAHOMA CA #1460
EXP DATE 6/30/21

GENERAL NOTES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

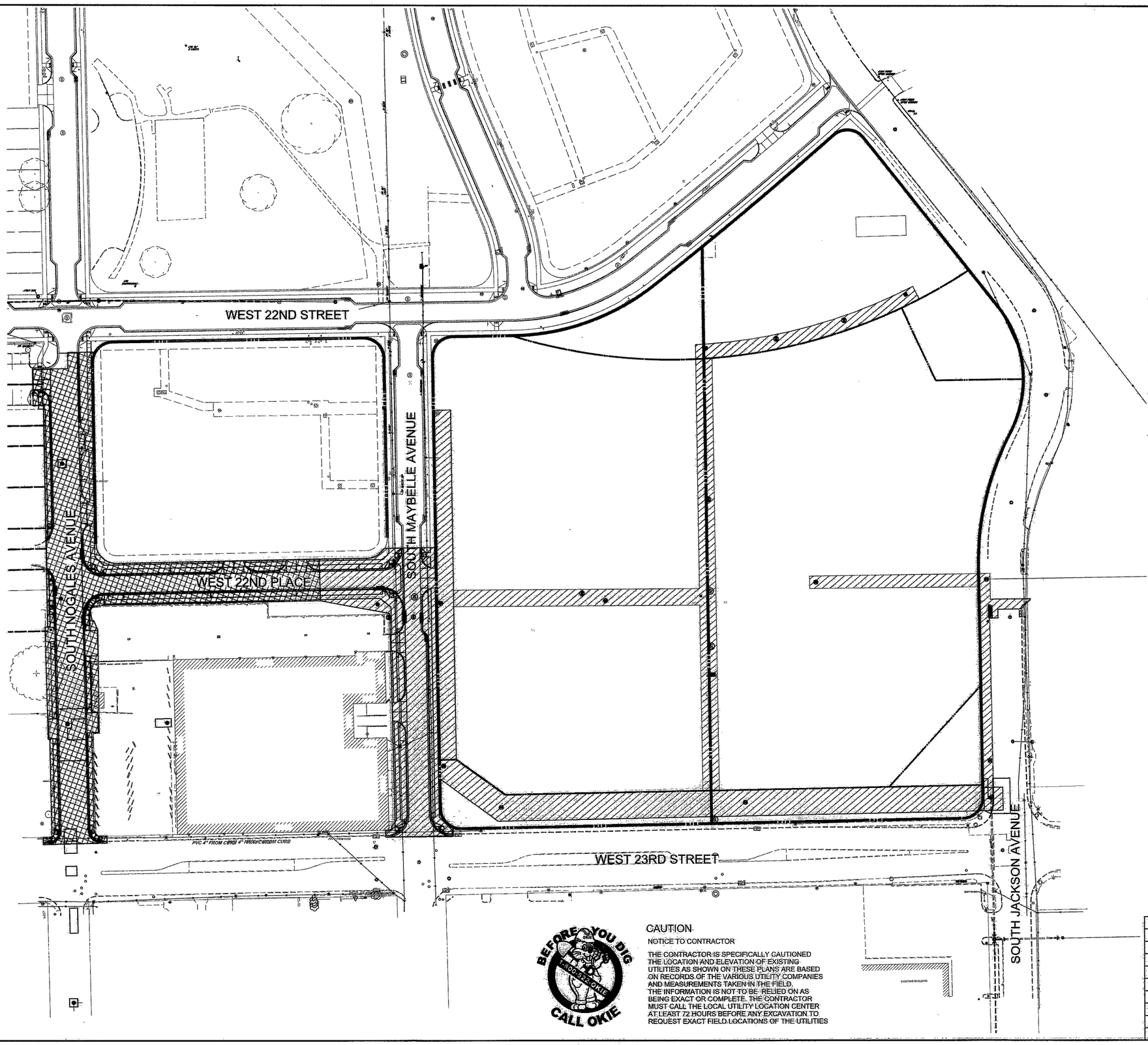
PLAN SCALE: N.A.
PROFILE SCALE: HORIZONTAL: N.A. VERTICAL: N.A.

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/20/20
LEAD MGR.		11/20/20
FIELD MGR.		11/20/20
RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 2 OF 89 SHEETS

11/16/2020 3:27:55 PM \\civil-server\projects\19400026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\2-General Information.dgn



NOTES:

1. THE PROJECT HAS BEEN DIVIDED INTO TWO (2) WORK AREAS AS SHOWN ON THIS PLAN. THE WORK AREAS ARE SUBJECT TO INTERNAL MILESTONES. THE CONTRACTOR MUST WORK IN THE ORDER AS SHOWN ON THE DRAWINGS.

2. WORK AREA I SHALL CONSIST OF ALL WORK ON S NOGALES AVENUE AND ALL WORK ON E 22ND PLACE WEST OF STATION 83+25. WATER AND SEWER SHALL BE COMPLETED, TESTED AND FULLY PERMITTED FOR USE BY TULSA HOUSING AUTHORITY FOR APARTMENT BUILDINGS AS SHOWN ON THE ATTACHED HOUSING CONSTRUCTION PHASE PLAN. THE WORK FOR AREA I SHALL BE TOTALLY COMPLETED BY MAY 1, 2021.

   IF THE CONTRACTOR FAILS TO TOTALLY COMPLETE ALL THE WORK IN AREA I WITHIN THE SPECIFIED TIME, THE CONTRACTOR AGREES TO PAY THE CITY, NOT AS A PENALTY, BUT AS LIQUIDATED DAMAGES (LD) FOR BREACH OF CONTRACT, THE SUM OF TWO THOUSAND FIVE HUNDRED DOLLARS ($2500.00) FOR EACH AND EVERY CALENDAR DAY FOR FAILURE TO COMPLETE THE WORK IN AREA I.

3. THE WORK INCLUDED IN AREA II SHALL BE TOTALLY COMPLETED BY JUNE 30, 2021. IF THE CONTRACTOR FAILS TO TOTALLY COMPLETE ALL THE WORK IN AREA II WITHIN THE SPECIFIED TIME, THE CONTRACTOR AGREES TO PAY THE CITY, NOT AS A PENALTY, BUT AS LIQUIDATED DAMAGES FOR BREACH OF CONTRACT, THE SUM OF TWO THOUSAND FIVE HUNDRED DOLLARS ($2500.00) FOR EACH AND EVERY CALENDAR DAY FOR FAILURE TO COMPLETE THE WORK IN AREA II.

4. FOR DETERMINING LIQUIDATED DAMAGE PAYMENTS, THE WORK SHALL BE CONSIDERED FULLY COMPLETE FOR EACH RESPECTIVE AREA WHEN THERE IS NO WORK FOR THE CONTRACTOR TO PERFORM; THE ENTIRE PUNCH LIST ITEMS ARE FINISHED FOR EACH RESPECTIVE AREA AND THE CONTRACTOR HAS REMOVED ALL EQUIPMENT, TRAFFIC CONTROL AND MATERIALS FROM THE SITE.

5. THE CONTRACTOR MAY BEGIN WORK OPERATIONS IN THE NEXT AREA AS SHOWN ON THE DRAWINGS PRIOR TO COMPLETION OF PREVIOUS AREA.

6. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL THE WORK WITHIN THE TIME SPECIFIED, THE DISINCENTIVE FROM THE FINAL WORK PHASE AND LIQUIDATED DAMAGES SHALL RUN CONCURRENTLY.

7. CONDITIONS RESULTING FROM SITUATIONS NOT CONTROLLED BY THE CONTRACTOR CAUSING LOST TIME SUCH AS UNFORESEEN UTILITIES, UNUSUALLY SEVERE WEATHER, OR NATURAL DISASTER WILL BE CONSIDERED ONLY FOR COMPUTATION OF LIQUIDATED DAMAGES.

LEGEND

- WORK AREA I
- WORK AREA II

60 0 30 60

1"=60' FULL SIZE
1"=120' HALF SIZE

CAUTION

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BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA

11/18/2020

OKLAHOMA CA #1460 EXP DATE 6/30/21

INTERNAL MILESTONE EXHIBIT

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=60'-0"
PROFILE SCALE:
HORIZONTAL: N.A.
VERTICAL: N.A.

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ.MGR.		11/20/20
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER	HAS	11.20

APPROVED: CITY ENGINEER

FILE: DRAWING:

DATE: 11/20/2020

ATLAS PAGE NO.: 35

SHEET 3 OF 69 SHEETS

11/18/2020 9:10:23 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\3-INTERNAL MILESTONE EXHIBIT.dgn

SUMMARY OF PAY QUANTITIES (11/20/2020)

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITIES					
					TOTAL	22ND PL	MAYBELLE	NOGALES	NOGALES	OTHER
ROADWAY										
1	201(A)	CLEARING AND GRUBBING	E-1, 2	ACRE	1	0.5	0.5	0.2	0.2	-
2	202(A)	UNCLASSIFIED EXCAVATION	E-3, 4, 5, R-1	CY	1,484	1139	269	46	30	-
3	202(D)	UNCLASSIFIED BORROW	E-5	CY	412	121	265	4	2	-
4	205(A)	TYPE A - SALVAGED TOPSOIL	-	CY	135	80	40	10	5	-
5	220	SWPPP DOCUMENTATION AND MANAGEMENT	E-6	EA	1	-	-	-	-	-
6	221(C)	TEMPORARY SILT FENCE	E-7	LF	162	-	110	-	-	52
7	221(D)	TEMPORARY SEDIMENT FILTER	E-7, 8, 9	EA	19	2	4	3	-	10
8	232(A)	SEEDING	-	ACRE	1	-	-	-	-	1
9	230(A)	SOLID SLAB SODDING	E-10, 11	SY	330	-	-	150	150	30
10	303(A)	AGGREGATE BASE TYPE A	E-5, S-1, 2	CY	1,166	470	499	47	53	41
11	310(B)	SUBGRADE METHOD B	E-5	SY	2,755	1,229	1,271	-	-	123
12	325	SEPARATOR FABRIC	E-5, S-3	SY	3,411	1,536	1,589	-	-	123
13	326(B)	GEOGRID REINFORCEMENT (TRIAXIAL TENSAR TX7 OR ENGINEER APPROVED EQUAL)	E-5	SY	2,933	1,229	1,271	170	-	123
14	409	FABRIC REINFORCEMENT	S-4	SY	2,200	-	-	1,389	811	-
15	411(B)	SUPERPAVE, TYPE S3 (PG 70-24)	S-5, 6, 7, 8	TON	551	267	284	-	-	-
16	411(C)	SUPERPAVE, TYPE S4 (PG 70-24) (INSOLUBLE)	S-5, 6, 7, 8	TON	703	107	114	300	182	-
17	411(D)	SUPERPAVE, TYPE S5 (PG 70-24)	S-5, 6, 7, 8, G-1	TON	6	-	-	4	2	-
18	412	COLD MILL PAVEMENT	S-9	SY	2,200	-	-	1,389	811	-
19	609(B)	COMBINED CURB AND GUTTER (6" BAR)	S-12, 13, 15, 16	LF	2,126	722	504	548	331	21
20	609(B)	CONCRETE VALLEY GUTTER	S-12, 13, 15, 16	LF	74	-	74	-	-	-
21	610(A)	CONCRETE SIDEWALK (4" THICK)	S-12, 13, 16, 17	SY	1,271	375	404	265	211	16
22	610(I)	TACTILE WARNING DEVICE-NEW	-	SF	180	50	40	70	20	-
23	610(B)	CONCRETE DRIVEWAY	S-12, 13, 16	SY	544	109	180	79	176	-
24	611(A)	MANHOLE, 4' I.D., COMPLETE IN PLACE (STORM SEWER)	D-1, 2, 3, 4, 5	EA	4	-	-	-	-	-
25	611(B)	ADDITIONAL DEPTH IN 4' I.D. MANHOLE	D-4	VF	3	-	-	-	-	-
26	611(A)	MANHOLE, 5' I.D., COMPLETE IN PLACE (STORM SEWER)	D-1, 2, 3, 4, 5	EA	1					
27	611(A)	MANHOLE, 6' I.D., COMPLETE IN PLACE (STORM SEWER)	D-1, 2, 3, 4, 5	EA	1	-	-	-	-	-
28	611(B)	ADDITIONAL DEPTH IN 6' I.D. MANHOLE	D-4	VF	2	-	-	-	-	-
29	611(A)	MANHOLE, 8' I.D., COMPLETE IN PLACE (STORM SEWER)	D-1, 2, 3, 4, 5	EA	4	-	-	-	-	-
30	611(B)	ADDITIONAL DEPTH IN 8' I.D. MANHOLE	D-4	VF	17	-	-	-	-	-
31	611(G)	INLET, CICI DESIGN NO. 2, COMPLETE IN PLACE	D-2, 3, 7, 8, 9, 10, 11	EA	1	-	-	-	-	-
32	611(G)	INLET, CICI DESIGN NO. 2B, COMPLETE IN PLACE	D-2, 3, 7, 8, 9, 10, 11	EA	1	-	-	-	-	-
33	611(G)	INLET, CICI DESIGN NO. 3, COMPLETE IN PLACE	D-2, 3, 7, 8, 9, 10, 11	EA	3	-	-	-	-	-
34	611(H)	ADD'L DEPTH IN INLET, CICI DESIGN NO. 3	D-10	VF	5	-	-	-	-	-
35	611(G)	INLET, CICI DESIGN NO. 3A, COMPLETE IN PLACE	D-2, 3, 7, 8, 9, 10, 11	EA	2	-	-	-	-	-
36	611(G)	INLET, CICI DESIGN NO. 4, COMPLETE IN PLACE	D-2, 3, 7, 8, 9, 10, 11	EA	1	-	-	-	-	-
37	611(H)	ADD'L DEPTH IN INLET, CICI DESIGN NO. 4	D-10	VF	1					
38	611(G)	INLET, CICI DESIGN NO. 4(2A), COMPLETE IN PLACE	D-2, 3, 7, 8, 9, 10, 11	EA	1	-	-	-	-	-
39	611(H)	ADD'L DEPTH IN INLET, CICI DESIGN NO. 4(2A)	D-10	VF	1	-	-	-	-	-
40	611(G)	INLET, STANDARD MEDIAN DRAIN, DESIGN SMD-4, COMPLETE IN PLACE	D-2, 3, 7, 8, 9, 10, 11	EA	2	-	-	-	-	-
41	612(A)	MANHOLE ADJUSTED TO GRADE (PUBLIC)	S-12, R-2, D-1, 2, 6	EA	1	-	-	1	-	-
42	612(E)	VALVE BOX ADJUSTED TO GRADE	S-12, R-2, D-6	EA	1	-	1	-	-	-
43	613(A)	RCP, 15" ROUND, COMPLETE IN PLACE	D-8, 12, & 13	LF	61	-	-	-	-	-
44	613(A)	RCP, 18" ROUND, COMPLETE IN PLACE	D-8, 12, & 13	LF	271	-	-	-	-	-
45	613(A)	RCP, 24" ROUND, COMPLETE IN PLACE	D-8, 12, & 13	LF	228	-	-	-	-	-
46	613(A)	RCP, 30" ROUND, COMPLETE IN PLACE	D-8, 12, & 13	LF	108	-	-	-	-	-
47	613(A)	RCP, 36" ROUND, COMPLETE IN PLACE	D-8, 12, & 13	LF	200	-	-	-	-	-
48	613(A)	RCP, 43"X68" ELLIPTICAL, COMPLETE IN PLACE	D-8, 12, & 13	LF	173	-	-	-	-	-
49	619(B)	REMOVAL OF STORM MANHOLE	R-1, 2, 5, 6	EA	7	-	1	-	-	6
50	619(B)	REMOVAL OF INLET	R-1, 2, 5, 6	EA	7	2	1	3	-	1
51	619(B)	REMOVAL OF CURB AND GUTTER	R-1, 2, 5, 6	LF	2,095	815	380	548	331	21
52	619(B)	REMOVAL OF ASPHALT OVERLAYED CONCRETE PAVEMENT	R-1, 2, 5, 6	SY	540	115	102	50	-	273
53	619(B)	REMOVAL OF CONCRETE PAVEMENT	R-1, 2, 5, 6	SY	2,086	1056	1007	-	-	23
54	619(B)	REMOVAL OF CONCRETE SIDEWALK	R-1, 2, 5, 6	SY	469	-	60	182	211	16
55	619(B)	REMOVAL OF DRIVEWAY	R-1, 2, 5, 6	SY	236	21	130	85	-	-
56	619(B)	REMOVAL OF LIGHTPOLES AND POWERPOLES	R-1, 2, 5, 6	EA	3	3	-	-	-	-
57	619(B)	REMOVAL OF 18" DRAIN PIPE	R-1, 2, 5, 6	LF	384	-	83	-	-	301
58	619(B)	REMOVAL OF 27" DRAIN PIPE	R-1, 2, 5, 6	LF	640	-	-	-	-	640
59	619(C)	SAWING PAVEMENT	-	LF	1,570	48	149	959	414	-
60	641	MOBILIZATION	G-2	EA	1	-	-	-	-	-
61	642	CONSTRUCTION STAKING	G-3, 4, W-24, 25, 27	EA	1	-	-	-	-	-
62	805(A)	REMOVAL OF TRAFFIC ITEMS (SIGNS)	T-1, 9, 10	EA	6	-	2	2	2	-
63	855(A)	TRAFFIC STRIPE 4" PLASTIC	T-3, 9, 11	LF	1,429	561	172	696	-	-
64	880(B)	SIGNS 0.00 TO 6.25 SF	T-2, 4, 5, SS-18, 19, 21	SD	240	-	-	-	-	-
65	880(B)	SIGNS 6.26 TO 15.99 SF	T-2, 4, 5, SS-18, 19, 21	SD	1,800	-	-	-	-	-
66	880(B)	SIGNS 16.00 AND UP	T-2, 4, 5, SS-18, 19, 21	SD	240	-	-	-	-	-
67	880(C)	BARRICADES (TYPE III)	T-2, 4, 5, SS-18, 19, 21	SD	2,880	-	-	-	-	-
68	880(E)	TYPE "A" WARNING LIGHT	T-5, SS-22	SD	5,760	-	-	-	-	-
69	880(E)	TYPE "C" WARNING LIGHT	T-5, SS-22	SD	2,040	-	-	-	-	-
70	880(F)	DRUMS	T-2, 4, 5	SD	3,600	-	-	-	-	-
71	880(G)	TUBE CHANNELIZERS	T-2, 4	SD	3,600	-	-	-	-	-
72	SPECIAL	PROJECT SIGN (CITY OF TULSA)	T-7	EA	2	-	1	1	-	-
73	SPECIAL	TYPE I AC PATCH (NON-ARTERIAL)	S-21, G-1	CY	10	-	-	-	-	10
74	SPECIAL	TYPE I APC PATCH (NON-ARTERIAL	S-21, G-1	CY	52	-	-	43	-	9
75	SPECIAL	TYPE I APC PATCH (ARTERIAL)	S-21, G-1	CY	11	-	-	-	-	11
76	SPECIAL	TYPE I PCC PATCH (ARTERIAL)	S-21, G-1	CY	8	-	-	-	-	8
77	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	G-5, 6, 7, 8, 9, 10, T-8	EA	1	-	-	-	-	-
78	SPECIAL	OWNER ALLOWANCE	W-18	ALLOW	1	-	-	-	-	-
79	SPECIAL	SIGNAGE FOR LOCAL BUSINESS ACCESS (BAS-1)	T-4	SD	84	-	-	-	-	84
80	(SP) COT 202	QUICK SET FLOWABLE FILL	G-1, D-8	CY	20	-	10	10	-	-
81	(SP) COT 643	CONTRACTOR'S QUALITY CONTROL	-	EA	1	-	-	-	-	-
82	(SP) COT 608(A)	GROUND SIGN	T-9	SF	88	-	-	-	-	-
83	(SP) COT 608(C)	1-1/2" SIGN POST	-	LF	5	-	-	-	-	-
84	(SP) COT 608(D)	1-3/4" SIGN POST	-	LF	126	-	-	-	-	-
85	(SP) COT 608(E)	2" SIGN POST	-	LF	36	-	-	-	-	-

SUMMARY OF PAY QUANTITIES (11/20/2020)

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITIES					
					TOTAL	22ND PL	MAYBELLE	NOGALES	NOGALES	OTHER
ROADWAY										
86	(SP) COT 602	4" PVC SCH 40 CONDUIT (TRENCHED)	-	LF	581	130	247	104	100	-
87	SPECIAL	CURB RAMP TYPE "A"	-	EA	9	3	4	1	1	-
88	SPECIAL	CURB RAMP TYPE "A/B"	-	EA	2	-	-	1	1	-
89	SPECIAL	CURB RAMP TYPE "D"	-	EA	6	1	-	5	-	-
90	SPECIAL	4 FOOT WIDE SIDEWALK W/ INTEGRAL RETAINING WALL, COMPLETE, IN-PLACE	-	LF	63	-	-	63	-	-
91	SPECIAL	TRIM TREE	G-7	EA	1	-	-	1	-	-
LANDSCAPING BASE BID										
92	203(A), SPECIAL	SOLID SLAB SODDING	(1000), (1017)	SF	6,740	3200	3540	-	-	-
93	231(A) SPECIAL	LEGACY SUGAR MAPLE (3"CP, SINGLE TRUNK)	G-7, (1001), (1002), (1017)	EA	6	6	-	-	-	-
94	231(A) SPECIAL	SARAH'S FAVORITE CRAPEMYRTLE (2.5"CP, SINGLE TRUNK)	G-7, (1001), (1002), (1017)	EA	11	-	11	-	-	-
95	231(A) SPECIAL	AERYN TRIDENT MAPLE (2.5"CP, SINGLE TRUNK)	G-7, (1001), (1002), (1017)	EA	10	10	-	-	-	-
96	SPECIAL	IRRIGATION SYSTEM COMPLETE	(1005), (1017)	SY	748	354	394	-	-	-
97	SPECIAL	24" DEPTH TOPSOIL & SOIL PREP	(1010), (1017)	CY	300	157	143	-	-	-
98	SPECIAL	LANDSCAPE FINE GRADING	(1011), (1017)	SY	748	354	394	-	-	-
99	SPECIAL	4" ID. PERFORATED DRAINLINE	(1016), (1017)	LF	1,340	740	600	-	-	-
100	SPECIAL	TREE GROUND ANCHORS	(1012), (1017)	EA	27	17	10	-	-	-
101	SPECIAL	2" DEPTH WOOD MULCH	(1014), (1017)	CY	20	12	8	-	-	-
102	SPECIAL	LANDSCAPE WARRANTY	E-11, (1009), (1017)	EA	1	-	-	-	-	-
103	SPECIAL	LANDSCAPE MAINTENANCE	E-11, (1009), (1017)	EA	1	-	-	-	-	-
ELECTRICAL ITEMS (BASE BID)										
104	SPECIAL	SITE LIGHTING 2" CONDUIT, TRENCHING, ACCESSORIES		LF	2,000	-	-	-	-	-
105	SPECIAL	IRRIGATION CONTROLLER POWER (1"C, 1 COUNT)		LF	400	-	-	-	-	-
106	SPECIAL	IRRIGATION CONTROLLER POWER (#10 WIRE, 1 COUNT)		LF	400	-	-	-	-	-
107	SPECIAL	PULL BOXES		EA	22	-	-	-	-	-
108	SPECIAL	NEW UNDERGROUND FEED TO CELL TOWER - TRENCH, 4" CONDUIT AND ACCESSORIES		LF	70	-	-	-	-	-
109	SPECIAL	RENTAL TEMPORARY GENERATOR FOR CELL TOWER		EA	1	-	-	-	-	-
STORMWATER PIPE MATERIAL OPTION 1 (RCP)										
					TOTAL					
165	613(A)	RCP, 42" ROUND, COMPLETE IN PLACE	D-8, 12, 13	LF	152					
166	613(A)	RCP, 48" ROUND, COMPLETE IN PLACE	D-8, 12, 13	LF	93					
STORMWATER PIPE MATERIAL OPTION 2 (CPP)										
167	COT 215	CPP, 42" ROUND, COMPLETE IN PLACE	D-13, 14, 15	LF	152					
168	COT 215	CPP, 48" ROUND, COMPLETE IN PLACE	D-13, 14, 15	LF	93					

QUANTITIES SHOWN ARE FOR BIDDERS' INFORMATION. THEY DO NOT RELIEVE THE CONTRACTOR OF VERIFYING AND PROVIDING ALL ITEMS AS SHOWN ON THE PLANS AND SPECIFICATIONS.

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA

11/18/2020

OKLAHOMA CA #1480
EXP DATE 6/30/21

REVISION	BY	DATE

ROADWAY PAY QUANTITIES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

PLAN SCALE:	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.		11/20/20
HORIZONTAL:	LEAD MGR.		11/20
	FIELD MGR.		11/20
VERTICAL:	RECOMMENDED: DESIGN MANAGER	HRS	11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:

DATE: 11/20/2020

ATLAS PAGE NO.: 35

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ENGINEERING SERVICES - TRANSPORTATION DESIGN

PAY ITEM NOTES (VERSION: 11/14/2018)

EARTHWORK / EROSION CONTROL / SITE PREPARATION (E1 - E11)

E-1: ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.

E-2: ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.

E-3: THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.

E-4: UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.

E-5: THIS QUANTITY INCLUDES AN ADDITIONAL 5% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL OR ADDITIONAL PATCHING AS DIRECTED BY THE ENGINEER.

E-6: THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT, AS WELL AS REMOVAL OF ALL SILT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, STORM SEWER PIPES AND APPURTENANCES WITHIN THE PROJECT LIMITS AT END OF PROJECT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

E-7: EROSION PROTECTION SHALL BE PLACED AS FOLLOWS:
A) AROUND INLETS TO PREVENT INFLOW OF ERODED MATERIAL INTO STORM SEWER SYSTEM;
B) IN LOCATIONS THROUGHOUT PROJECT SITE, AS DETERMINED BY THE ENGINEER, TO PREVENT WASH OF ERODED MATERIAL ONTO ADJACENT PROPERTY;
C) FOR ENTIRE DURATION OF PROJECT, WITH MAINTENANCE AND REPLACEMENTS, AS DIRECTED BY THE ENGINEER;
D) WITH PERIODIC REMOVAL OF SEDIMENT IN ACCORDANCE WITH STORMWATER MANAGEMENT PLAN.
ALL COST FOR ITEMS A-D ABOVE SHALL BE INCLUDED IN UNIT PRICE BID FOR THIS ITEM.

E-8: PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.

E-9: INCLUDES 10 TYPE I-C FILTERS AND 9 TYPE II FILTERS.

E-10: ESTIMATED QUANTITY IS BASED ON SODDING OF ALL DISTURBED AREAS OUTSIDE THE FINAL PAVING LIMITS AND WITHIN THE FINAL GRADING LIMITS AS INDICATED BY THE TOP-OF-CUT/TOE-OF-SLOPE LINE ON THE PLANS (EXCLUDING SURFACES OF STRUCTURES, FIXTURES AND APPURTENANCES). SOD SHALL BE OF LIKE-KIND TO EXISTING SOD. PRICE BID INCLUDES PLACEMENT AND COMPACTION OF SUITABLE BACKFILL. ANY EXISTING GRASSED AREAS BEYOND THE ABOVE STATED LIMITS THAT ARE DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESODDED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S SOLE EXPENSE.

E-11: COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.

SURFACING / STRUCTURES (S1 - S16)

S-1: TYPE A AGGREGATE BASE WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 90% OF THE PATCHING. QUICK SET FLOWABLE FILL WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 10% OF THE PATCHING. ACTUAL QUANTITIES TO BE DETERMINED BY THE ENGINEER.

S-2: INCLUDES COMPACTION OF AGGREGATE TO 98% AASHTO T180 MODIFIED PROCTOR.

S-3: SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.

S-4: FABRIC REINFORCEMENT SHALL BE USED ON OVERLAY AREAS. THE COST OF BITUMINOUS BINDER FOR FABRIC REINFORCEMENT SHALL BE INCLUDED IN THE UNIT COST OF THIS PAY ITEM. THE BITUMINOUS BINDER SHALL MEET ODOT STANDARD SPECIFICATIONS AND THE RECOMMENDATIONS OF THE FABRIC REINFORCEMENT MANUFACTURER.

S-5: THE COST OF TACK COAT, EDGE JOINT SEAL MATERIAL AND SCREENINGS FOR BLOTTING, AND ALL LABOR ASSOCIATED WITH THESE ITEMS, SHALL BE INCLUDED IN ASPHALT CONCRETE.

S-6: ESTIMATED AT 112 LBS PER SQ YD PER 1 INCH THICK.

S-7: ODOT PAY FACTOR FOR AVERAGE LOT DENSITY SHALL NOT BE USED FOR THIS PROJECT. FAILURE TO REACH AVERAGE LOT DENSITY OF 92%-97% WILL RESULT IN REJECTION OF WORK.

S-8: A HIGHER GRADE OF ASPHALT BINDER THAN IS INDICATED ON THE PLANS MAY BE USED, BUT AT NO ADDITIONAL COST TO THE CITY.

NOTE S8 (50) TABLE

BINDER GRADE'	MESALs	ADT'	NOTES
PG 64-22 OK	< 3	< 5,000	USE WHEN MORE THAN 4-6 INCHES BELOW THE SURFACE. ALSO USE FOR SHOULDERS, DRIVEWAYS, BELOW PCC, AND TEMPORARY CONSTRUCTION.
PG 70-28 OK	< 10	< 10,000	USE ONLY IN THE TOP 4-6 INCHES FOR DRIVING LANES.
PG 76-28 OK	>= 10	>= 10,000	USE ONLY IN THE TOP 4-6 INCHES FOR DRIVING LANES.
PG 76-28 E			CONTACT ODOT MATERIALS DIVISION FOR RECOMMENDED USE.

'USE ADT ONLY WHEN ESAL COMPUTATIONAL DATA IS NOT AVAILABLE. CALCULATE THE DESIGN ESALs BASED ON 20 YEARS.
'PG 70-28 OK OR PG 76-28 OK MAY BE DESIRABLE IN HIGH VOLUME AREAS WHERE SLOW, STANDING, OR TURNING TRAFFIC OCCURS, SUCH AS URBAN INTERSECTIONS OR OFF-RAMPS. OFF RAMPS SHOULD AT LEAST USE THE SAME BINDER AS THE MAINLINE.

S-9: THIS ITEM INCLUDES ALL COSTS ASSOCIATED WITH COLD MILLING AND TO PROVIDE BUTT JOINTS AS REQUIRED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR COLD MILLING BEYOND THE AVERAGE DEPTH SHOWN ON THE TYPICAL SECTIONS.

S-10: NOT USED.

S-11: NOT USED.

SURFACING / STRUCTURES (S21 - S22)

S-12: THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.

S-13: INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.

S-14: NOT USED.

S-15: THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.

S-16: CURB, GUTTER, AND/OR SIDEWALK ASSOCIATED WITH THE DRIVEWAY AND THROUGH THE DRIVEWAY IS INCLUDED IN THE COST OF THE DRIVEWAY.

S-17: ONE SIDEWALK PANEL ON EACH SIDE OF DRIVEWAYS SHALL BE A MINIMUM OF 6" THICK OR MATCH EXISTING DRIVEWAY THICKNESS, WHICHEVER IS GREATER. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE COST OF THE THICKENED SIDEWALK THROUGH THIS AREA.

S-18: NOT USED.

S-19: NOT USED.

S-20: NOT USED.

S-21: THIS PAY ITEM INCLUDES THE FOLLOWING:

A. SAW CUTTING
B. REMOVAL OF THE EXISTING CONCRETE AND/OR ASPHALTIC CONCRETE ROADWAY (CY)
C. TYPE S3 ASPHALTIC CONCRETE OR PC CONCRETE COMPLETE AND IN PLACE PER DETAIL
D. SEALING OF EDGES AND TACK COAT

DOES NOT INCLUDE THE FOLLOWING:

A. UNCLASSIFIED EXCAVATION
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE (TYPE A)
E. ASPHALT CONCRETE LEVELING OR SURFACE COURSE

REMOVAL / ADJUSTMENT (R1 - R6)

R-1: WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

R-2: ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.

R-3: NOT USED.

R-4: NOT USED.

R-5: ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.

R-6: SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.

GENERAL (G1 - G8)

G-1: LOCATIONS TO BE DETERMINED IN THE FIELD AND WORK TO BE PERFORMED AT THE DIRECTION OF THE FIELD ENGINEER. QUANTITY IS ESTIMATED AND MAY BE OMITTED IN ITS ENTIRETY.

G-2: MAXIMUM OVERALL DOLLAR AMOUNT AND SCHEDULE OF PAYMENTS SHALL BE IN ACCORDANCE SECTION 641 OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, 2009 EDITION. EXCLUDES MOBILIZATION FOR WATERLINE WORK.

G-3: CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.

G-4: THE COST TO REPLACE REMOVED OR DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.

G-5: CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER AND CITY ARBORIST. COST SHALL BE INCLUDED IN THE PRICE BID.

G-6: ALL HOUSE NUMBERS SHALL BE REPLACED/ REESTABLISHED THROUGHOUT PROJECT LIMITS. COST TO BE INCLUDED IN URBAN RIGHT OF WAY RESTORATION. CONTRACTOR SHALL REESTABLISH DRAINS, ROOF DRAINS AND OTHER DRAINAGE THROUGH THE CURBS IN ACCORDANCE WITH CITY OF TULSA STANDARD 758. NO NEW CURB OUTLETS SHALL BE CONSTRUCTED WITHOUT APPROVAL OF THE ENGINEER.

G-7: AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST SHALL OVERSEE ALL PLANTINGS AND/OR REMOVAL OF TREES. CONTACT CITY ARBORIST TO ACCEPT FINAL PLANTINGS. CONTACT #: 918-596-2548

G-8: TREE GRATES ARE NOT ACCEPTABLE PER CITY ARBORIST. CONCRETE PAVERS ARE TO BE USED AS NECESSARY AROUND TREES.

GENERAL (G9 - G10)

G-9: CONTRACTOR SHALL COORDINATE WITH HOMEOWNERS TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTING OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.

G-10: PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.

OKLAHOMA PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020
OKLAHOMA CA #1460
EXP DATE 6/30/21

ROADWAY PAY ITEM NOTES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.	BGC	11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER	HMS	11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 5 OF 69 SHEETS

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ENGINEERING SERVICES - TRANSPORTATION DESIGN
PAY ITEM NOTES (VERSION: 11/14/2018)
DRAINAGE (D1 - D15)

D-1: THIS ITEM SHALL INCLUDE THE COST OF NEW MANHOLE FRAME AND COVER PER CITY OF TULSA STD NOS.752, 753, 754, 761, 762, 769A, 769B AND 775.

D-2: THE TOTAL COST FOR RUBBERIZED ASPHALT AND/OR SILICONE AT MANHOLES, VALVE BOXES, INLETS, AND INLET APRONS, SHALL BE INCLUDED.

D-3: NO MASONRY STRUCTURES SHALL BE CONSTRUCTED WITHIN THE RIGHT OF WAY.

D-4: ADDITIONAL DEPTH FROM STANDARD DEPTH OF 6FT IN A MANHOLE OR JUNCTION BOX SHALL BE MEASURED FROM THE TOP OF RIM TO THE LOWEST FLOWLINE.

D-5: ALL MANHOLES SHALL BE COMPLETE IN PLACE. THIS PAY ITEM INCLUDES FRAME, COVER, CONCRETE AND ALL OTHER INCIDENTALS REQUIRED FOR PLACEMENT.

D-6: ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.

D-7: INCLUDES THE COST REQUIRED TO MAKE CONNECTION AND REMOVAL OF EXISTING INLETS. THE COST OF PC CONCRETE CURB AND GUTTER THROUGH THE INLET, 5' EACH SIDE OF THE INLET, AND THE PC CONCRETE INLET APRON SHALL BE INCLUDED. GRATE AND FLOWLINE ELEVATIONS SHALL MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED IN THE PLANS.

D-8: QUICKSET FLOWABLE FILL SHALL BE USED TO BACKFILL AROUND STREET CURB INLETS AND REINFORCED CONCRETE PIPE, AS NEEDED, AT THE DIRECTION OF THE ENGINEER.

D-9: ALL INLETS, COMPLETE IN PLACE, SHALL BE CAST IN PLACE CONCRETE OR PRECAST CONCRETE. THIS PAY ITEM INCLUDES ANY INLET FRAME(S), GRATE(S), HOOD(S) AND CONCRETE REQUIRED FOR COMPLETE INSTALLATION OF STRUCTURE PER THE CONSTRUCTION DOCUMENTS.

D-10: ADDITIONAL DEPTH QUANTITIES SHALL BE MEASURED AND PAID FOR ALL INLETS EXCEEDING STANDARD DEPTH. STANDARD DEPTHS ARE AS FOLLOWS:
- A) CAST IRON CURB INLET: 3.71 VF, MEASURED FROM CENTER ELEVATION OF LOWEST CAST IRON CURB TO FLOWLINE OF OUTLET PIPE.
- B) RECESSED CURB INLET: 3.00 VF, MEASURED FROM TOP OF SLAB TO FLOWLINE OF OUTLET PIPE.
- C) STANDARD DROP INLET: SEE STANDARD DETAILS 770, 771, 772 AND 773 - VARIES BASED ON PIPE SIZE, MEASURED FROM LOWEST ELEVATION OF INFLOW APRON TO FLOWLINE OF OUTLET PIPE.

D-11: CAST IRON CURB INLET CONFIGURATION NAMING CONVENTION PROVIDED IN COT STANDARD NO. 755. SEPARATE DETAILS SHALL BE REFRENCED OR PROVIDED IN THE PLANS FOR NON-CITY-STANDARD INLETS.
STANDARD NAMING: CICLDES G(T) [W/AMH]
G: NUMBER OF GRATES.
T: LETTER(S) CORRESPONDING TO ARRANGEMENT OF CAST IRON HOODS TO BE INSTALLED UPSTREAM OF GRATES.
W/AMH: IF SHOWN, INLET TO BE CONSTRUCTED WITH ATTACHED ACCESS MANHOLE.

D-12: REINFORCED CONCRETE PIPE TO BE CLASS III. ALL REINFORCED CONCRETE PIPE AND MANHOLES TO BE SUPPLIED WITH AN OMNI-FLEX JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.

D-13: THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BEDDING MATERIAL AND TRENCH EXCAVATION, JOINT GASKETS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE. PRIOR TO ACCEPTANCE, INTERIOR OF PIPE SHALL BE INSPECTED FOR DEFECTS USING SELF-PROPELLED MOBILE CLOSED-CIRCUIT CAMERA SYSTEM.

D-14: WHERE CORRUGATED POLYPROPYLENE PIPE CONNECTS TO REINFORCED CONCRETE STRUCTURES, CONTRACTOR SHALL ENSURE CONNECTIONS ARE WATER-TIGHT AND FULLY SEALED AGAINST SOIL INFILTRATION.

D-15: WHERE QUICKSET FLOWABLE FILL IS USED TO BACKFILL AROUND CORRUGATED POLYPROPYLENE PIPE THE CONTRACTOR SHALL UTILIZE AN ANCHORING SYSTEM APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL COSTS FOR LABOR, EQUIPMENT AND MATERIALS REQUIRED TO IMPLEMENT APPROVED ANCHORING SYSTEM INCLUDED IN PRICE BID FOR CORRUGATED POLYPROPYLENE PIPE.

TRAFFIC (T1 - T7)

T-1: ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.

T-2: REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.

T-3: ALL PLASTIC PAVEMENT MARKINGS SHALL BE:
EXTRUDED-APPLIED THERMOPLASTIC (USE ON ASPHALT PAVEMENT OR CONCRETE PAVEMENT). THERMOPLASTIC PAVEMENT MARKINGS SHALL ONLY BE APPLIED WHEN THE SURFACE TEMPERATURE EXCEEDS 55°F FOR ALL OF THE SIX HOURS PRIOR TO INSTALLATION AND MAXIMUM WIND GUSTS ARE BELOW 15 MPH AT THE TIME OF APPLICATION. PRICE BID TO INCLUDE FLEX TABS OR LIKE KIND FOR POST CONSTRUCTION LANE MARKING/SEPARATION. MECHANICALLY APPLIED PREFORMED PLASTIC TAPE ("COLD TAPE") WILL NOT BE ACCEPTED.

T-4: PAYMENT SHALL BE MADE ON A SIGN-DAY BASIS ONLY FOR TRAFFIC CONTROL DEVICES THAT ARE PROPERLY INSTALLED AND IN GOOD WORKING ORDER. COSTS FOR DELIVERY, INSTALLATION, RELOCATION, MAINTENANCE REMOVAL AND REPLACEMENT, AS NEEDED AT THE DISCRETION OF THE ENGINEER, INCLUDED IN UNIT PRICE BID.

T-5: IF WARNING LIGHTS ARE TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.

T-6: NOT USED.

T-7: PRICE BID FOR THIS ITEM INCLUDES INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF PROJECT SIGN.

TRAFFIC (T1 - T7)

T-8: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE EXISTING TRAFFIC SIGNAL IN A PROPER WORKING CONDITION DURING CONSTRUCTION AS DIRECTED BY THE TRAFFIC ENGINEER AND FOR FOLLOWING THE REQUIREMENTS OF COT 626 TRAFFIC SIGNAL CONSTRUCTION AND OPERATION.

T-9: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS PART OF THIS PROJECT. ALL SIGNS AND POSTS PROVIDED SHALL BE NEW AND UNDAMAGED AND SHALL MEET THE REQUIREMENTS OF COT SPECIFICATION 608 TRAFFIC SIGNS.

T-10: ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.

T-11: PAVEMENT MARKINGS SHALL MEET THE REQUIREMENTS OF ODOT STANDARDS AND SPECIFICATIONS FOR PAVEMENT MARKINGS, BUT SHALL BE PROVIDED USING TULSA STANDARD PAVEMENT MARKING LAYOUTS WHEN APPLICABLE. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.

LANDSCAPE PAY ITEM NOTES

1000. COMMON BERMUDA GRASS SOD TO INCLUDE ALL TOOLS, LABOR AND MATERIALS TO SCARIFY, FINE GRADE, FERTILIZE, LAY AND ROLL SOD. MAINTENANCE AND MOWING UNTIL FINAL ACCEPTANCE TO BE INCIDENTAL TO THIS ITEM.

1001. REFER TO PLANTING PLANS FOR PLANT MATERIAL SIZES, SOURCES, INSTALLATION NOTES, AND SPACING.

1002. SHALL INCLUDE ALL TOOLS, LABOR, AND MATERIALS REQUIRED TO PROCURE, SHIP, UNLOAD, MAINTAIN DURING CONSTRUCTION, PLANT, AND STAKE ALL PLANT MATERIALS. COST TO INCLUDE ALL SOIL AMENDMENTS AND MULCH. CONTACT CITY ARBORIST AT 918-591-4344 TO ACCEPT FINAL PLANTINGS.

1003. NOT USED.

1004. NOT USED.

1005. SHALL INCLUDE BUT NOT LIMITED TO PROVIDING ALL TOOLS, LABOR, AND MATERIALS REQUIRED TO DESIGN, PROVIDE AND INSTALL A COMPLETE AND FUNCTIONAL AUTOMATIC, SOLENOID CONTROLLED IRRIGATION SYSTEM. COST OF SUPPLYING SLEEVES FOR IRRIGATION PIPE AND WIRES, BACKFLOW PREVENTER, VALVES, VALVE BOXES, CONTROL AND COMMON WIRING, LATERAL LINES, MAIN LINES, SPRINKLER HEADS, AUTOMATIC CONTROLLER(S), AND SYSTEM PRESSURE AND PERFORMANCE TESTS ARE INCIDENTAL TO THIS ITEM.

1006. NOT USED.

1007. NOT USED.

1008. NOT USED.

1009. PRICE TO INCLUDE ALL NECESSARY TOOLS, LABOR AND MATERIALS REQUIRED FOR THE MAINTENANCE OF TREES AND SHRUBS FOR A PERIOD OF ONE YEAR. IRRIGATION SYSTEM TO BE REGULARLY CHECKED FOR OPERATION AND COVERAGE OF TREES AND LAWNS NEEDED TO ESTABLISH AND MAINTAIN PROPER TREE HEALTH. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MATCH AND REPLACE ANY TREES AND SHRUBS THAT DIE OR FAIL TO THRIVE. THE COST OF TREE AND SHRUB REPLACEMENTS AND IRRIGATION REPAIR TO BE INCIDENTAL TO THIS ITEM.

1010. SHALL INCLUDE ALL NECESSARY TOOLS, LABOR AND MATERIALS REQUIRED FOR PROVIDING AND INSTALLING TOPSOIL IN ALL PLANTING AND TURF AREAS. COST TO INCLUDE THE ADDITION AND INCORPORATION OF COMPOST PER THE SPECIFICATIONS, AND ADDITION AND INCORPORATION OF SOIL AMENDMENTS PER THE RECOMMENDATIONS OF THE HORTICULTURAL SOILS TEST.

1011. COST TO INCLUDE THE SCARIFICATION OF THE SUBGRADE, AND THE PLACEMENT AND GRADING OF TOPSOIL IN TURF AREAS. REMOVAL OF CONSTRUCTION DEBRIS AND FOREIGN MATTER IN EXCESS OF 1" SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

1012. SHALL INCLUDE ALL NECESSARY TOOLS, LABOR AND MATERIALS REQUIRED FOR PROVIDING AND INSTALLING TREE GROUND ANCHORS PER THE CITY OF TULSA STANDARD DETAILS. COST SHALL INCLUDE THE INITIAL ADJUSTMENT OF THE GROUND ANCHORS, AND CHECKING AND READJUSTING THE ANCHORS AT 2 AND 4 WEEKS AFTER INSTALLATION.

1013. NOT USED.

1014. COST TO INCLUDE PROVIDING AND INSTALLING HARDWOOD MULCH EQUAL TO DARK BROWN DOUBLE GROUND HARDWOOD BARK MULCH EQUAL TO THAT PRODUCED BY FOSTER BROTHERS WOOD PRODUCTS, INC. WWW.FOSTERBROS.COM.

1015. NOT USED.

1016. INCLUDES ALL NECESSARY TOOLS, LABOR AND MATERIALS REQUIRED TO PROVIDE AND INSTALL 4" PERFORATED DRAINLINE WITH A FABRIC SOCK AND BEDDED IN COARSE SAND. TRENCHING AND CONNECTION TO THE STORM WATER COLLECTION SYSTEM TO BE INCIDENTAL TO THIS ITEM.

1017. SEE SHEET 160, LANDSCAPE SPECIFICATIONS, FOR BASIS OF PAYMENT.

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020
OKLAHOMA CA #1460
EXP. DATE 6/30/21

REVISION	BY	DATE

ROADWAY
PAY ITEM NOTES

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

PLAN SCALE:	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.		
HORIZONTAL:	LEAD MGR.		
VERTICAL:	FIELD MGR.		
	RECOMMENDED: DESIGN MANAGER	HAS	11.20

APPROVED:
CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 6 OF 69 SHEETS

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GENERAL CONSTRUCTION NOTES (REV 10/19/2020)

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT'S STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.

2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE CITY OF TULSA MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.

3. PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.

4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.

5. THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS:

SOUTHWESTERN BELL	918-495-2200
PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP)	918-599-2217
OKLAHOMA NATURAL GAS (ONG)	918-588-7000 EXT.676
COX COMMUNICATIONS	918-628-3635
MCI	918-590-2160
WELLSCO VALLOR TELECOM	918-451-3441
CITY OF TULSA-WATER AND SEWER	918-596-9560
CITY OF TULSA-TRAFFIC OPERATIONS	918-596-9766

6. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1-800-522-6543.

7. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCLEMENT WEATHER OR OTHER SOURCES FROM ENTERING ANY STREET EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS ADVERSELY AFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.

8. THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.

9. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA AND THE CONCURRENT STREET CONTRACTOR TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE STREETS AND STORMWATER REPRESENTATIVE.

10. CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE CITY OF TULSA, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT ADDITION, AND APPLICABLE ODOT STANDARD DRAWINGS. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE CITY OF TULSA PRIOR TO BEGINNING WORK. BECAUSE OF THE CONCURRENT STREET PROJECT BY SEPARATE CONTRACT, MINIMAL CONSTRUCTION SIGNAGE IS ANTICIPATED TO BE REQUIRED. CONTRACTOR SHALL NOT PROVIDE DUPLICATIVE, UNNECESSARY CONSTRUCTION SIGNAGE.

11. THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA STREETS AND STORMWATER AT 918-576-5514, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR TO REMOVING TRAFFIC SIGNS. ALL SIGNS SHALL BE HANDLED IN A MANNER SO AS NOT TO DAMAGE THE SIGN AND/OR POST. ALL TRAFFIC SIGNS REMOVED DUE TO CONSTRUCTION SHALL BE REPLACED WITH NEW AND UNDAMAGED SIGNS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS LISTED IN THE SIGNAGE SCHEDULE FOR THE PROJECT. ALL SIGNS AND POLES PROVIDED SHALL BE NEW AND UNDAMAGED AND SHALL MEET THE REQUIREMENTS OF COT SPECIFICATION 608 TRAFFIC SIGNS. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.

13. NOT USED.

14. NOT USED.

15. NOT USED.

16. ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE CITY OF TULSA. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

17. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT ADDITIONAL COST TO THE CITY. EXCEPT FOR THE TOPSOIL, NO EXCAVATED MATERIAL SHALL BE STORED ON THE PROJECT SITE UNLESS PERMITTED BY CITY. ALL ROADWAY UNCLASSIFIED EXCAVATED MATERIAL WITHIN THIS CONTRACT SHALL BE DISPOSED OF AT AN OFFSITE LOCATION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY. ALL UTILITY TRENCH EXCAVATED MATERIAL (INCLUDING STORM, WATERLINE, SANITARY SEWER, IRRIGATION, AND ELECTRICAL) WITHIN THIS CONTRACT AND NOT BACKFILLED IN THE UTILITY TRENCH WHERE IT WAS EXCAVATED SHALL BE DISPOSED OF AT AN OFFSITE LOCATION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

18. NOT USED.

19. WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.

20. ANY DAMAGE TO THE ROADWAY PAVEMENT, CURB, DRIVEWAYS OR SIDEWALK CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE CITY OF TULSA'S SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE.

21. IF THE CONTRACTOR ENCOUNTERS VOIDS WHEN PATCHING STREETS, THE CONTRACTOR SHALL CALL FIELD ENGINEERING AT 918-596-7814 FOR AN INSPECTION BEFORE PROCEEDING WITH WORK.

22. THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SUCH THAT THE LAYDOWN MACHINE WILL REMAIN IN MOTION. ANY DELAY IN FORWARD PROGRESSION OF THE LAYDOWN MACHINE MAY REQUIRE A TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.

23. NO FLY ASH IS ALLOWED TO BE USED ON THIS PROJECT.

24. PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.

25. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.

26. MASONRY STRUCTURES SHALL NOT BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY.

27. ALL CONCRETE CURB AND GUTTERS SHALL BE MONOLITHIC POURS. DOWELED-ON CURBS WILL NOT BE ALLOWED.

28. NO LIFTING HOLES WILL BE ALLOWED ON ANY REINFORCED CONCRETE PIPES OR REINFORCED CONCRETE BOXES.

29. HANDICAP RAMP CONSTRUCTION SHALL COMPLY WITH THE CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.

30. REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.

31. ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.

32. THE SIGN PLACEMENT STATIONING AND LOCATIONS SHOWN ON THE PLAN SHEETS AND SUMMARY SHEETS ARE APPROXIMATE. EXACT STATIONING AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH CITY OF TULSA STANDARDS, CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES, OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.

33. POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE. EXACT LENGTHS SHALL BE DETERMINED BY A FIELD SURVEY CONDUCTED BY THE CONTRACTOR.

34. NOT USED.

35. THE CONTRACTOR SHALL REPLACE ANY SECTION CORNERS OR OTHER PERMANENT RIGHT OF WAY MARKERS REMOVED OR DISTURBED AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT. REPLACEMENT OF SECTION CORNERS OR ANY OTHER MONUMENTS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AUTHORIZED TO PERFORM WORK IN THE STATE OF OKLAHOMA.

36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.

37. STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.

38. THE CONTRACTOR MUST CALL 1-800-458-4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.

39. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

40. ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD. WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

41. ALL TRENCH WIDTHS & BEDDING MATERIAL SHALL BE AS SHOWN ON COT STANDARD PIPE BEDDING DETAIL, STANDARD NO. 751. SPECIFIED TRENCH WIDTHS SHALL BE MAINTAINED FULL DEPTH FROM THE FLOWLINE TO THE GRADING TEMPLATE. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED.

42. THE CONTRACTOR SHALL NOTIFY THE METROPOLITAN TULSA TRANSIT AUTHORITY (MTTA), ERIC SMITH 918-830-0024, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK, LANE CLOSURES OR PRIOR TO DETOURING TRAFFIC.

43. CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIAL IN THE FLOODPLAIN

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA

11/18/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

ROADWAY CONSTRUCTION NOTES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK.74103
(918) 584-5858

PLAN SCALE:	DRAWN	MDE	11/20/20	APPROVED:
	DESIGNED	JR	11/20/20	
	SURVEY	ARJ	11/20/20	
PROFILE SCALE:	PROJ MGR.			
HORIZONTAL:	LEAD MGR.			
	FIELD MGR.			
VERTICAL:	RECOMMENDED: DESIGN MANAGER			CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

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SUMMARY OF PAY QUANTITIES (11/20/2020)

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITIES TOTAL	SHT 53	SHT 54	SHT 55
WATERLINE (BASE BID)								
110	COT 301	RIGHT OF WAY CLEARING AND RESTORING	W-4, 5, 6, 7, 22	LF	1,088	437	400	251
111	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	W-14	CY	433	155	181	97
112	COT 303	MOBILIZATION	-	EA	1	-	-	-
113	SPECIAL	CONSTRUCTION AS-BUILTS	W-24, 25, 27	EA	1	-	-	-
114	SPECIAL	WATER LOCATOR BALLS	W-28	EA	25	-	-	-
115	COT 312	8 INCH X 6 INCH DUCTILE IRON REDUCER (RJ)	W-2, 8	EA	1	-	1	-
116	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	W-2, 8	EA	4	3	1	-
117	COT 312	6 INCH X 6 INCH DUCTILE IRON TEE (RJ)	W-2, 8	EA	1	1	-	-
118	COT 312	6 INCH BLIND FLANGE (RJ)	W-2, 8	EA	4	-	2	2
119	COT 315	PRIVATE SERVICE CONNECTION BY LICENSED BONDED PLUMBER	W-13, 17	EA	1	-	-	1
120	COT 315	2 INCH WATER SERVICE CONNECTION (SHORT)	W-15, 16	EA	4	-	2	2
121	COT 315	2 INCH WATER METER CAN, LID & RIM	-	EA	4	-	2	2
122	COT 315	2 INCH TAPPED CAP W/ BLOWOFF	-	EA	4	-	2	2
123	COT 317	6 INCH GATE VALVE (RJ)	W-8	EA	9	2	3	4
124	COT 317	8 INCH GATE VALVE (RJ)	W-8	EA	6	-	4	2
125	COT 317	2 INCH AIR RELIEF VALVE	-	EA	1	-	-	1
126	COT 317	3-WAY FIRE HYDRANT, IN PLACE	-	EA	4	1	2	1
127	COT 317	6 INCH FIRE HYDRANT EXTENSION	-	EA	1	1	-	-
128	COT 318	VALVE BOX	W-21	EA	14	2	7	5
129	COT 318	VALVE BOX EXTENSION	W-21	VF	4	2	2	-
WATERLINE PVC OPTION								
169	COT 309	6 INCH PVC AWWA C900 CLASS 200 DR-14 (RJ)	W-1, 2, 3, 8, 9, 10, 27	LF	398	341	-	57
170	COT 309	6 INCH PVC AWWA C900 CLASS 200 DR-14	W-1, 2, 3, 8, 9, 10, 27	LF	96	96	-	-
171	COT 309	8 INCH PVC AWWA C900 CLASS 200 DR-14 (RJ)	W-1, 2, 3, 8, 9, 10, 27	LF	525	-	331	194
172	COT 309	8 INCH PVC AWWA C900 CLASS 200 DR-14	W-1, 2, 3, 8, 9, 10, 27	LF	101	-	101	-
173	COT 312	8 INCH DUCTILE IRON 22.5 DEGREE BEND (RJ)	W-2, 8, 19	EA	4	-	4	-
174	COT 312	8 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	W-2, 8	EA	2	-	1	1
175	COT 312	6 INCH DUCTILE IRON 22.5 DEGREE BEND (RJ)	W-2, 8, 19	EA	3	3	-	-
176	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	W-2, 8	EA	4	-	-	4
177	COT 312	8 INCH X 6 INCH DUCTILE IRON TEE (RJ)	W-2, 8	EA	8	-	4	4
178	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	W-2, 8, 12	EA	1	-	1	-
179	COT 312	8 INCH DUCTILE IRON SLEEVE (RJ)	W-2, 8, 12	EA	1	-	-	1
WATERLINE DIP OPTION								
180	COT 307	6 INCH DIP, C51 POLYETHYLENE WRAPPED, RJ	W-1, 2, 3, 8, 9, 11, 27	LF	398	341	-	57
181	COT 307	6 INCH DIP, C51 POLYETHYLENE WRAPPED	W-1, 2, 3, 8, 9, 11, 27	LF	96	96	-	-
182	COT 307	8 INCH DIP, C51 POLYETHYLENE WRAPPED, RJ	W-1, 2, 3, 8, 9, 11, 27	LF	525	-	331	194
183	COT 307	8 INCH DIP, C51 POLYETHYLENE WRAPPED	W-1, 2, 3, 8, 9, 11, 27	LF	101	-	101	-
184	COT 312	8 INCH DUCTILE IRON 22.5 DEGREE BEND (RJ)	W-2, 8, 19	EA	4	-	4	-
185	COT 312	8 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	W-2, 8	EA	2	-	1	1
186	COT 312	6 INCH DUCTILE IRON 22.5 DEGREE BEND (RJ)	W-2, 8, 19	EA	3	3	-	-
187	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	W-2, 8	EA	4	-	-	4
188	COT 312	8 INCH X 6 INCH DUCTILE IRON TEE (RJ)	W-2, 8	EA	8	-	4	4
189	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	W-2, 8, 12	EA	1	-	1	-
190	COT 312	8 INCH DUCTILE IRON SLEEVE (RJ)	W-2, 8, 12	EA	1	-	-	1
WATERLINE HDPE OPTION								
191	COT 309	6 INCH PVC AWWA C900 CLASS 200 DR-14 (RJ)	W-1, 2, 3, 8, 9, 10, 27	LF	127	70	-	57
192	COT 309	8 INCH PVC AWWA C900 CLASS 200 DR-14 (RJ)	W-1, 2, 3, 8, 9, 10, 27	LF	100	-	60	40
193	COT 309A	10 INCH HDPE AWWA C906 PE4710 DR-11 (DIPS)	W-1, 2, 3, 8, 9, 10, 19, 27	LF	392	392	-	-
194	COT 309A	12 INCH HDPE AWWA C906 PE4710 DR-11 (DIPS)	W-1, 2, 3, 8, 9, 10, 19, 27	LF	494	-	340	154
195	COT 312	8 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	W-2, 8	EA	1	-	1	1
196	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	W-2, 8	EA	4	-	-	4
197	COT 312	8 INCH X 6 INCH DUCTILE IRON TEE (RJ)	W-2, 8	EA	8	-	4	4
198	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	W-2, 8, 12	EA	1	-	1	-
199	COT 312	8 INCH DUCTILE IRON SLEEVE (RJ)	W-2, 8, 12	EA	1	-	-	1
200	COT 312	10 INCH X 6 INCH DIP REDUCER	-	EA	2	2	-	-
201	COT 312	12 INCH X 8 INCH DIP REDUCER	-	EA	8	-	5	3
202	COT 312A	10 INCH HDPE MJ ADAPTOR (DIPS) (RJ)	-	EA	4	4	-	-
203	COT 312A	12 INCH HDPE MJ ADAPTOR (DIPS) (RJ)	-	EA	8	-	5	3
204	COT 312A	10 INCH HDPE WALL ANCHOR (DIPS) (RJ)	W-26	EA	4	4	-	-
205	COT 312A	12 INCH HDPE WALL ANCHOR (DIPS) (RJ)	W-26	EA	8	-	5	3

WATER VALVE AND FIRE HYDRANT SUMMARY

NORTHING	EASTING	ALIGNMENT	STATION	OFFSET	ELEVATION
WV					
417865.4038	2558471.5628	22ND PLACE	83+81.98	20.00 RT	632.48
417390.2293	2558537.8647	MAYBELLE AVE	57+09.29	25.00 RT	634.94
417489.4958	2558536.3374	MAYBELLE AVE	58+08.56	25.00 RT	633.21
417492.4387	2558534.7954	MAYBELLE AVE	58+11.53	23.50 RT	633.14
417546.7317	2558536.8592	MAYBELLE AVE	58+65.79	26.40 RT	632.64
417563.7982	2558536.6202	MAYBELLE AVE	58+82.85	26.43 RT	632.47
417568.8308	2558535.1093	MAYBELLE AVE	58+87.91	25.00 RT	632.39
417687.0251	2558533.2987	MAYBELLE AVE	60+06.12	25.00 RT	632.50
417689.9661	2558530.2525	MAYBELLE AVE	60+09.11	22.00 RT	632.42
417795.8445	2558531.6275	MAYBELLE AVE	61+14.95	25.00 RT	633.73
417798.8712	2558533.0038	MAYBELLE AVE	61+17.96	26.45 RT	633.80
417821.3127	2558532.6822	MAYBELLE AVE	61+40.40	26.45 RT	634.10
417827.4090	2558532.5884	MAYBELLE AVE	61+46.50	26.45 RT	634.16
417832.4438	2558531.0608	MAYBELLE AVE	61+51.55	25.00 RT	634.18
417563.7982	2558536.6202	JACKSON AVE			632.47
AIR RELIEF VALVE					
417878.6479	2558530.3507	MAYBELLE AVE	61+97.76	25.00 RT	634.31
FH					
417644.5712	2558476.1818	22ND PLACE	83+86.19	40.92 RT	632.07
417563.7982	2558536.6202	MAYBELLE AVE	58+82.85	26.43 RT	632.47

QUANTITIES SHOWN ARE FOR BIDDERS' INFORMATION. THEY DO NOT RELIEVE THE CONTRACTOR OF VERIFYING AND PROVIDING ALL ITEMS AS SHOWN ON THE PLANS AND SPECIFICATIONS.

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA

11/18/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

WATERLINE PAY QUANTITIES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

PLAN SCALE: N/A	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE: HORIZONTAL: N/A VERTICAL: N/A	PROJ.MGR.		11/2020
	LEAD MGR.		11/20
	FIELD MGR.		11/20
	RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 8 OF 69 SHEETS

11/18/2020 9:46:46 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\8-Water Pay Quantities.dgn

WATERLINE PAY ITEM NOTES (Revised 11/16/2020):

W-1 TESTING AND CHLORINATION OF WATER MAINS SHALL BE PERFORMED BY THE CITY OF TULSA. TESTING, CHLORINATION, AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH SECTION 109.3 OF THE GENERAL SPECIFICATIONS.

A. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PLUGS WITH ADEQUATE BLOCKING OR RESTRAINTS, PLUS CORPORATION STOPS, AS DIRECTED BY CITY TESTING PERSONNEL, THEN, ONCE TESTING, CHLORINATION AND FLUSHING BY CITY PERSONNEL IS COMPLETED, REMOVE TEMPORARY BLOCKING AND TIE INTO EXISTING SYSTEM, USING FITTINGS SWABBED INTERNALLY WITH 2% BLEACH SOLUTION.

B. TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAIN SHALL BE PERFORMED BY CITY PERSONNEL ON MAINS WHICH ARE PHYSICALLY DISCONNECTED FROM THE EXISTING WATER SYSTEM. TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAINS SHALL NOT BE PERFORMED AGAINST VALVES WHICH ARE PHYSICALLY CONNECTED TO EXISTING SYSTEM.

C. ALL COSTS FOR TEMPORARY PLUGS, BLOCKING, RESTRAINING, CORPORATION STOPS, TUBING, THREADED CONNECTIONS, BLEACH AND OTHER INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.

W-2 BURIED BOLTS, HARNESS LUGS, AND COUPLINGS SHALL BE GIVEN TWO COATS OF KOPPER'S BITUMASTIC 300-M (DRY MIL THICKNESS OF 16 MILS) OR EQUAL. COST TO BE INCLUDED IN UNIT PRICE BID FOR PIPE AND FITTINGS.

W-3 CONTRACTOR TO EXCAVATE ALL UTILITY CROSSINGS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE ADJUSTED ON THE PROPOSED WATER MAIN TO AVOID UTILITY CONFLICTS. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. COST FOR EXCAVATING UTILITY CROSSINGS SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE.

W-4 CONTRACTOR SHALL INSURE ALL POLES WHICH ARE AFFECTED BY TRENCHING CONDITIONS ARE BRACED BY OWNERS. PAYMENT SHALL BE INCLUDED IN "RIGHT-OF-WAY CLEARING AND RESTORING". NO ADDITIONAL PAYMENT SHALL BE MADE.

W-5 ALL HYDRANTS, VALVES AND OTHER FITTINGS FROM ABANDONED WATER MAINS SHALL BE SALVAGED AND DELIVERED TO SOUTH YARD, 2317 S JACKSON. PAYMENT TO BE MADE UNDER RIGHT OF WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

W-6 CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS, ROOF DRAINS, AND FENCING DAMAGED IN THE ZONE OF CONSTRUCTION DURING THE COURSE OF CONSTRUCTION TO SATISFACTION OF THE PROPERTY OWNER. PAYMENT SHALL BE INCLUDED IN RIGHT-OF-WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

W-7 COST OF ANY TEMPORARY LIVESTOCK FENCING AND POLES SHALL BE INCLUDED IN COST OF RIGHT OF WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

W-8 ALL COSTS FOR COMPONENTS NECESSARY TO RESTRAIN JOINTS FOR PIPE AND FITTINGS DESIGNATED RESTRAINED JOINT ("RJ") SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE OR FITTINGS.

A. DUCTILE IRON PIPE RESTRAINED JOINT SYSTEMS: US PIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, AMERICAN FLEXRING, EBAA MEGALUG, STAR STARGRIP, SMITH-BLAIR CAMLOCK, CLOW TUFGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. SHOULD RJ PIPE BE SPECIFIED THROUGH UNCASED BORES, ONLY USPIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, OR AMERICAN FLEXRING IS TO BE USED. LOCKING GASKETS NOT PERMITTED;

B. POLYVINYL CHLORIDE (PVC) RESTRAINED JOINT SYSTEMS: EBAA MEGALUG, STAR STARGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. LOCKING GASKETS NOT PERMITTED; SHOULD RJ PIPE BE SPECIFIED ON BORE, CASING IS REQUIRED.

C. HIGH DENSITY POLYETHYLENE (HDPE) RESTRAINED JOINT SYSTEMS: EBAA MEGALUG, STAR STARGRIP OR EQUAL SHALL BE USED ON THIS PROJECT.

NO ADDITIONAL PAYMENT SHALL BE MADE.

W-9 ALL CUT ENDS AND WHERE SALVAGED FITTINGS HAVE BEEN REMOVED FROM ABANDONED WATER LINES LEFT IN PLACE, SHALL BE PLUGGED WITH 24-IN OF CONCRETE INSIDE THE PIPE. COST OF CONCRETE PLUGGING TO BE INCLUDED IN UNIT PRICE BID FOR PIPE. NO ADDITIONAL PAYMENT SHALL BE MADE.

W-10 TRACER WIRE AND DETECTABLE MYLAR MARKING TAPE SHALL BE INSTALLED ABOVE ALL PVC AND HDPE PIPE, TERMINATING ONLY ONTO HYDRANTS JUST ABOVE GROUND LEVEL AS PER CONST SPEC 310. COST OF TRACER WIRE AND DETECTABLE MYLAR TAPE SHALL BE INCLUDED IN UNIT PRICE BID FOR PVC AND HDPE PIPE. CONST SPEC 310.1 NOW ALLOWS #12 COPPER-CLAD STEEL (CCS) WIRE, 21% CONDUCTIVITY, IN LIEU OF #8 COPPER WIRE AS TRACER WIRE ATOP PVC AND HDPE PIPE.

W-11 DETECTABLE MYLAR MARKING TAPE SHALL BE INSTALLED OVER DUCTILE IRON PIPE AS PER CONST SPEC 307.3 AND 307.4. COST WILL BE INCLUDED IN COST OF DUCTILE IRON PIPE.

W-12 ALL LABOR, MATERIALS, AND EQUIPMENT TO CONNECT PROPOSED WATER MAINS TO EXISTING WATER MAINS ARE INCLUDED IN COST OF SLEEVES/ADAPTORS. CONTRACTOR TO EXCAVATE ALL EXISTING WATER MAINS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE ADJUSTED ACCORDINGLY. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. COST FOR EXCAVATING EXISTING WATER MAINS SHALL BE INCLUDED IN UNIT PRICE BID FOR SLEEVES. NO ADDITIONAL PAYMENT SHALL BE MADE.

W-13 AT THE DIRECTION OF THE ENGINEER, CONTRACTOR SHALL FURNISH A "LICENSED AND BONDED PLUMBER", WHICH SHALL INCLUDE ALL COSTS OF LABOR, TOOLS, PERMIT FEES, AND EQUIPMENT TO REROUTE THE EXISTING CUSTOMER SERVICE ON CUSTOMER PROPERTY TO THE PROPOSED CUSTOMER METER CAN. COST SHALL NOT EXCEED AN ALLOWANCE OF $1000 PER OCCURRENCE. MATERIALS SHALL BE PAID UNDER SEPARATE BID ITEMS. NO ADDITIONAL PAYMENT SHALL BE MADE.

W-14 CONTRACTOR IS REMINDED TO BACKFILL ALL TRENCHES EXCAVATED ACROSS ANY EXISTING OR PROPOSED DRIVING OR PARKING SURFACE WITH 1½-IN TYPE A AGGREGATE BASE, PLACED IN 8-INCH MAXIMUM LIFTS AND COMPACTED TO 98% MODIFIED PROCTOR DENSITY. COST TO BE INCLUDED IN COST OF EXCAVATION AND BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE.

W-15 WATER SERVICE CONNECTIONS SHALL INCLUDE COST OF MATERIAL, LABOR AND EQUIPMENT TO REMOVE AND INSTALL SADDLES, SERVICE CLAMPS, CORPORATION STOPS, BENDS, 3-PART UNIONS, COUPLINGS, SETTERS AND ANY OTHER INCIDENTALS REQUIRED FOR A COMPLETE WATER SERVICE CONNECTION WITH EXCEPTION OF METER CANS, RIMS AND LIDS. NO ADDITIONAL PAYMENT SHALL BE MADE. METER CANS, LIDS AND RIMS SHALL BE PAID AS A SEPARATE BID ITEM.

A. SHORT SERVICE SHALL BE ANY SERVICE LINE THAT IS 25-FEET OR LESS IN LENGTH. SHORT SERVICES DO NOT INCLUDE PAVEMENT REPLACEMENT. I.E. ¾-INCH WATER SERVICE CONNECTIONS (SHORT SERVICE)

B. LONG SERVICE SHALL BE ANY SERVICE LINE THAT IS GREATER THAN 25-FEET UP TO 80-FEET IN LENGTH. LONG SERVICES INCLUDE PAVEMENT REPLACEMENT AND/ OR COST TO BORE. EXAMPLE: ¾-IN WATER SERVICE CONNECTIONS (LONG SERVICE)

C. SHORT AND LONG SERVICE LINES EXCEEDING THE ABOVE PARAMETERS WILL BE COMPENSATED FOR LINEAR FOOTAGE ABOVE AND BEYOND. COMPENSATION SHALL BE PAID AS "SERVICE LINES, EXTENSION", PER LF

W-16 SERVICE LINES ON NON-ARTERIALS SHALL BE EITHER COPPER TUBING (TYPE K SOFT ANNEALED CONFORMING TO ASTM B 88) OR PEX TUBING (UPONOR AQUA PEX 5206 BLUE CONFORMING TO ASTM F876/F877/F2023). PEX TUBING IS NOT PERMITTED WITHIN ARTERIAL RIGHT OF WAY. WHEN CONTRACTOR ELECTS TO USE PEX TUBING:

A. ¾-INCH WATER SERVICE CONNECTION SHALL USE 1-INCH PEX TUBING MINIMUM
B. 1-INCH WATER SERVICE CONNECTION SHALL USE 1¼-INCH PEX TUBING MINIMUM

W-17 CONTRACTOR'S PLUMBER SHALL PROVIDE AN INFORMATIONAL BROCHURE TO THE PROPERTY OWNERS OUTLINING THE STEPS REQUIRED TO THOROUGHLY FLUSH THEIR WATERLINES AFTER CONNECTION TO THE NEW WATER MAIN. ALL COSTS TO PRODUCE AND DISTRIBUTE THE BROCHURE SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.

W-18 THE "OWNER ALLOWANCE" CAN BE USED FOR VARIOUS WORK AND MISCELLANEOUS ITEMS NOT IDENTIFIED IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING PROVISIONS: THE ALLOWANCE SHALL BE USED FOR COST OF MATERIALS, LABOR, INSTALLATION AND OVERHEAD AND PROFIT FOR ADDITIONAL WORK AND MISCELLANEOUS ITEMS THAT ARE NOT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AND PLANS, AND NOT INCLUDED IN THE BID ITEMS OF THE CONTRACT.

A. THE ALLOWANCE SHALL BE USED ONLY AT THE DISCRETION OF THE CITY. ANY ALLOWANCE BALANCE REMAINING AT THE COMPLETION OF THE PROJECT WILL BE CREDITED BACK TO THE CITY ON THE FINAL APPLICATION FOR PAYMENT SUBMITTED BY THE CONTRACTOR.

B. THE CONTRACTOR SHALL PROVIDE, TO THE CITY, A WRITTEN REQUEST FOR THE USE OF ANY ALLOWANCE, WITH A SCHEDULE OF VALUES, AND ALL ASSOCIATED BACKUP INFORMATION, INCLUDING ANY TIME EXTENSIONS REQUIRED TO PERFORM THE WORK.

C. THE CONTRACTOR SHALL PROCEED WITH THE WORK INCLUDED IN THE ALLOWANCE ONLY AFTER RECEIVING A WRITTEN ORDER, FROM THE ENGINEER AND CITY AUTHORIZING SUCH WORK. PROCEEDING WITH WORK IN THE ALLOWANCE WITHOUT A WRITTEN ORDER FROM THE CITY WILL BE AT THE CONTRACTOR'S EXPENSE.

W-19 WHERE PLANS IDENTIFY A 22.5-DEG OR 11.25-DEG VERTICAL OR HORIZONTAL BEND, HDPE WILL BE DEFLECTED PER MANUFACTURER'S MINIMUM ALLOWABLE BEND RADIUS.

W-20 NOT USED.

W-21 TOP OF VALVE BOX SHALL BE FLUSH WITH FINISHED GRADE.

W-22 THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING IMPROVEMENTS. LIMITS OF DISTURBANCE SHALL NOT EXCEED 9-FEET CENTERED ON THE WATERLINE. ANY DISTURBANCE OUTSIDE OF THIS AREA SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE. STREETS, DRIVEWAYS AND ASSOCIATED ITEMS SHALL BE PAID FOR UNDER OTHER ITEMS OF WORK. SOD SHALL BE PAID FOR IN LANDSCAPE QUANTITIES. NO WATERLINE ROW RESTORATION IS REQUIRED WITHIN STREET ROW WHERE STREET IS BEING CONSTRUCTED OR RECONSTRUCTED; RIGHT-OF-WAY TO BE RESTORED BY STREET PORTION OF CONTRACT, IF REQUIRED.

W-23 NOT USED.

W-24 SPOT ELEVATIONS ON THE MAIN WATER LINE RELATIVE TO FINISHED GRADE SHALL BE PROVIDED AT EACH 100-FT INTERVAL, COMPLETE WITH STATION AND OFFSET. IN ADDITION, ALL VALVES, FITTINGS, FIRE HYDRANTS (TOP OF NUT) AND OTHER MAJOR APPURTENANT ITEMS SHALL BE SHOWN WITH THE PROPER DESCRIPTION, STATION, OFFSET (NORTHING, EASTING) AND ELEVATION PER PLAN SURVEY CONTROL DATUM.

W-25 SPOT ELEVATIONS ON WATER METER CANS, VAULTS, SHALL BE SHOWN WITH THE PROPER DESCRIPTION (METER TYPE, METER SIZE, METER NUMBER, SERVICE MATERIAL, SERVICE SIZE), STATION, OFFSET (NORTHING, EASTING) AND ELEVATION PER PLAN SURVEY CONTROL DATUM.

W-26 WORK UNDER THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING HDPE WALL ANCHOR AS SHOWN ON DRAWINGS OR AS DIRECTED BY THE ENGINEER. THE UNIT PRICE SHALL INCLUDE THE COST OF ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR EXCAVATION, BACKFILLING, OR CONCRETE BLOCKING.

W-27 PRESSURE TESTING AND CHLORINATION OF WATER MAINS SHALL NOT BE PERFORMED UNTIL THE CITY INSPECTOR HAS RECEIVED REQUIRED CONSTRUCTION AS-BUILT RECORDS.

W-28 MARKER BALLS SHALL BE INSTALLED ABOVE ALL FITTINGS, BLIND FLANGES, SERVICE TAPS AND EVERY 100 FEET IF THE DISTANCE BETWEEN FITTINGS IS GREATER THAN 100 FEET. COST OF MARKER BALLS SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE. MARKERS SHALL BE VIVAX WATER MARKER BALLS OR EQUAL THAT WORK WITH THE VIVAX VLOC3-PRO RECEIVER AND LOC3-10TX TRANSMITTER.

WATERLINE CONSTRUCTION NOTES (Revised 09/24/2018):

1. THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT SHALL INSPECT ALL TRENCHING, BEDDING, PIPE INSTALLATION, BACKFILL AND COMPACTION.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS AND STANDARD DETAILS, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.
3. EXISTING SERVICE CONNECTIONS ARE TO BE KEPT IN SERVICE UNTIL CONNECTIONS TO NEW MAIN ARE MADE. ALL SERVICE LINE RECONNECTIONS SHALL BE MADE BY THE CONTRACTOR. SERVICE RECONNECTIONS SHALL BE INSTALLED AS PER CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS.
4. MINIMUM COVER OVER WATER LINES SHALL BE AS NOTED ON PLANS.
5. CONTRACTOR SHALL REPLACE EXISTING GRASS WITH SEED/SOD OF SAME TYPE AND VARIETY OR AS NOTED ON PLANS.
6. CONTRACTOR SHALL BORE EXISTING TREES UNDER DRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.
7. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.
8. WATER OPERATIONS SHALL OPERATE ALL VALVES ON TRANSMISSION MAINS (16"AND LARGER). CONTRACTOR SHALL OPERATE ALL VALVES ON DISTRIBUTION MAINS (SMALLER THAN 16") WITH THE COORDINATION OF FIELD ENGINEERING AND WATER OPERATIONS AND IN THE PRESENCE OF A FIELD ENGINEERING INSPECTOR.
   A. ATTEMPTS WILL BE MADE WITH ASSISTANCE FROM THE CONTRACTOR TO NOTIFY ALL AFFECTED CUSTOMERS 48-HOURS IN ADVANCE, PARTICULARLY IF COMMERCIAL OR INDUSTRIAL CUSTOMERS ARE INVOLVED. PRIOR TO SHUTDOWN, FIELD ENGINEERING WILL NOTIFY WATER OPERATIONS, AT 918-596-9488, GIVING AN ESTIMATED DOWNTIME. WATER OPERATIONS WILL NOTIFY THE FIRE DEPARTMENT OF ALL FIRE HYDRANTS OUT OF SERVICE AND WHEN THEY ARE BACK IN SERVICE, BY STREET ADDRESS OR INTERSECTION.
   B. WHERE COMMERCIAL, INDUSTRIAL, OR CRITICAL CUSTOMERS ARE AFFECTED, AND FOR ALL LINES 16-INCH AND LARGER IN SIZE, FIELD ENGINEERING WILL REQUEST WATER OPERATIONS TO SHUT DOWN THE MAIN. THERE WILL BE A MINIMUM OF 48-HOUR NOTICE TO WATER OPERATIONS.
9. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOUR NOTICE TO ALL RESIDENTS OR BUSINESSES AFFECTED BEFORE TURNING OFF ANY WATER. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING DOOR HANGERS ON AFFECTED HOMES AND BUSINESSES.
10. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC, NOTICE OF ANY EXCAVATION NO SOONER THAN 48 HOURS OR LATER THAN 10 DAYS, EXCLUDING SATURDAYS, SUNDAYS, LEGAL HOLIDAYS PRIOR TO COMMENCEMENT OF WORK, PHONE 1-800-522-6543.
11. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH PROJECT AT ALL TIMES. OPEN CUT STREET CROSSINGS REQUIRE AN APPROVED TRAFFIC CONTROL PLAN WITH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH CURRENT MUTCD REQUIREMENTS.1
12. ANY DAMAGE CAUSED BY CONTRACTOR TO ADJACENT TRAFFIC SIGNAL INFRASTRUCTURE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE TRAFFIC ENGINEER.
13. PRIOR TO PAVEMENT SAWING AND EXCAVATION NEAR SIGNALIZED INTERSECTION, CONTRACTOR SHALL CONTACT ENGINEERING SERVICES, TRAFFIC OPERATIONS, 918-596-9766, FOR SITE SPECIFIC, UNDERGROUND TRAFFIC UTILITY LOCATES.
14. CONSTRUCTION FOR ALL ENGINEERING SERVICES FACILITIES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF TITLE 252, DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 626, PUBLIC WATER SUPPLY CONSTRUCTION STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ).
15. ALL EXCAVATED MATERIAL NOT REQUIRED IN OTHER AREAS OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY EXCESS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS OF TULSA.
16. ANY CHANGES FROM APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF TULSA FOR WRITTEN APPROVAL PRIOR TO INSTALLATION.

LICENSED PROFESSIONAL ENGINEER
JORDAN RODIGH
28548
OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

WATERLINE PAY ITEM & CONSTRUCTION NOTES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

PLAN SCALE:	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.		11/20/20
HORIZONTAL:	LEAD MGR.		11/20/20
	FIELD MGR.		11/20
VERTICAL:	RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 9 OF 69 SHEETS

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SUMMARY OF PAY QUANTITIES (11/20/2020)

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITIES									
					TOTAL	SHT 43	SHT44	SHT 45	SHT 46	SHT 47	SHT 48	SHT 49	SHT 50	SHT 51
WASTEWATER (BASE BID)														
130	COT 301	RIGHT OF WAY CLEARING AND RESTORING, COMPLETE IN PLACE	SS-1, 4, 5, 7, 17, 23, 24	LF	1,589	231	400	400	157	135	266	-	-	-
131	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	SS-2, 6, 13, 15, 24	CY	2,882	509	886	842	276	130	239	-	-	-
132	COT 309	8 INCH PVC, SDR-26	SS-15	LF	476	-	-	-	75	135	266	-	-	-
133	COT 309	18 INCH PVC, SDR-26	SS-15	LF	1,113	231	400	400	82	-	-	-	-	-
134	COT 314(A)	4' DIA MANHOLE	SS-13	EA	3	-	-	-	1	-	2	-	-	-
135	COT 314(B)	4' DIA MANHOLE (ADD'L DEPTH)	SS-13	VF	14	-	-	-	10	-	4	-	-	-
136	COT 314(A)	5' DIA MANHOLE	SS-13	EA	4	1	2	1	-	-	-	-	-	-
137	COT 314(B)	5' DIA MANHOLE (ADD'L DEPTH)	SS-13	VF	67	20	33	14	-	-	-	-	-	-
138	COT 314(A)	5' DIA DROP MANHOLE	SS-13	EA	1	-	-	1	-	-	-	-	-	-
139	COT 314(B)	5' DIA DROP MANHOLE (ADD'L DEPTH)	SS-13	VF	12	-	-	12	-	-	-	-	-	-
140	COT 315	CONNECTION TO EXISTING MANHOLE	SS-8	EA	1	-	-	-	1	-	-	-	-	-
141	COT 315	CONNECT TO EX. 8" SS	SS-8	EA	1	-	-	-	-	1	-	-	-	-
142	COT 315	CONNECT TO EX. 18" SS	SS-8	EA	1	1	-	-	-	-	-	-	-	-
143	COT 315	8 INCH BY 6" IN-LINE TEE FOR SERVICE CONNECTION	-	EA	16	-	-	-	1	-	15	-	-	-
144	COT 400	PHOTOGRAPHIC DOCUMENTATION	-	EA	1	-	-	-	-	-	-	-	-	-
145	COT 404	5 FT ID MANHOLE DEMOLITION	-	EA	3	-	-	-	-	2	1	-	-	-
146	COT 405	POINT REPAIR, 8" OPEN CUT REPLACEMENT, SDR 26 PVC	SS-1, 2, 5, 8, 15	LF	40	-	-	-	-	-	-	-	40	-
147	COT 405, 408	4" PVC SERVICE RECONNECTIONS	SS-10, 11, 12	EA	1	-	-	-	-	-	-	-	-	-
148	COT 405, 408	4" PVC SERVICE LINE	SS-10, 11, 12	LF	1	-	-	-	-	-	-	-	-	-
149	COT 405, 408	6" PVC SERVICE RECONNECTIONS	SS-10, 11, 12	EA	1	-	-	-	-	-	-	-	-	1
150	COT 405, 408	6" PVC SERVICE LINE	SS-10, 11, 12	LF	5	-	-	-	-	-	-	-	-	5
151	COT 409	8" SLIPLINE REPLACEMENT, SDR 21 HDPE	SS-5, 9	LF	957	-	-	-	-	-	-	400	400	157
152	COT 409	15" SLIPLINE REPLACEMENT, 12" SDR 21 HDPE	SS-5, 9	LF	167	-	-	-	-	167	-	-	-	-
153	COT 410	6" PVC SERVICE RECONNECTIONS (CIPP OR SLIPLINING)	SS-10, 11, 12	EA	1	-	-	-	1	-	-	-	-	-
154	COT 415	PRE-CONSTRUCTION TELEVISION INSPECTION	SS-3	LF	1,124	-	-	-	-	167	-	400	400	157
155	COT 415	COMPLETE DROP MANHOLE REPLACEMENT, 4' I.D. (0-6' DEPTH)	SS-13,14	EA	5	-	-	-	-	-	-	2	1	2
156	COT 415	COMPLETE DROP MANHOLE REPLACEMENT, 4' I.D. (>6' DEPTH)	SS-13,14	VF	29	-	-	-	-	-	-	16	6	7
157	COT 415	COMPLETE MANHOLE REPLACEMENT, 5' I.D. (0-6' DEPTH)	SS-13,14	EA	1	-	-	-	-	1	-	-	-	-
158	COT 415	COMPLETE MANHOLE REPLACEMENT, 5' I.D. (>6' DEPTH)	SS-13,14	VF	17	-	-	-	-	17	-	-	-	-
159	COT 415	COMPLETE DROP MANHOLE REPLACEMENT, 5' I.D. (0-6' DEPTH)	SS-13,14	EA	1	-	-	-	-	1	-	-	-	-
160	COT 415	COMPLETE DROP MANHOLE REPLACEMENT, 5' I.D. (>6' DEPTH)	SS-13,14	VF	12	-	-	-	-	12	-	-	-	-
161	COT 418	REPLACEMENT OF MANHOLE FRAME SEAL AND CHIMNEY (TYPE D REPAIR)	SS-14	EA	1	-	-	-	-	-	-	-	-	-
162	COT 420	MANHOLE STEP REMOVAL AND STEP INSTALLATION (TYPE I REPAIR)	-	EA	1	-	-	-	-	-	-	-	-	-
163	COT 421	MANHOLE WALL REHABILITATION (TYPE Gg REPAIR)	-	SF	10	-	-	-	-	-	-	-	-	-
164	COT 423	OBSTRUCTION REMOVAL	SS-17	EA	1	-	-	-	-	-	-	-	-	-

WASTEWATER PAY ITEM NOTES (REVISED 08/06/2020)

SS-1. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING AN EROSION CONTROL PLAN BASED ON CONSTRUCTION SEQUENCING. COST TO INCLUDE SILT REMOVAL AND ANY RE-GRADING NECESSARY DUE TO EROSION.

SS-2. PRICE TO INCLUDE ANY AND ALL ROCK EXCAVATION. NO BLASTING WILL BE ALLOWED. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK EXCAVATION.

SS-3. VIDEO PRE-INSPECTION QUANTITY CALCULATED BASED ON EXISTING MANHOLE LOCATIONS. CONTRACTOR SHALL USE VIDEO TO CONFIRM LOCATIONS AND DETERMINE POSITIONS OF SERVICE CONNECTIONS. ANY CLEANING REQUIRED, INCLUDING HEAVY CLEANING, SHALL BE INCLUDED IN UNIT PRICE BID FOR VIDEOTAPE INSPECTION. NO ADDITIONAL PAYMENT SHALL BE MADE.

SS-4. FOR THE WORK BID UNDER "OPEN CUT", SURFACE RESTORATION ITEMS SHALL BE PAID FOR IN ACCORDANCE WITH SPECIFICATION SECTION 402.17 ONLY WHEN THE OPEN CUT METHOD OF REPLACEMENT IS USED. PAVEMENT REMOVAL AND REPLACEMENT SHALL BE PAID FOR IN SQUARE YARDS. THE PAY QUANTITY SHALL BE COMPUTED AS THE LENGTH ALONG THE CENTERLINE OF PIPE BEING REPLACED BY THE STANDARD TRENCH WIDTH (SEE CITY OF TULSA STANDARD DETAIL# 315 FOR TRENCH WIDTH).

SS-5. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE BYPASS PUMPING IF NECESSARY. THE PUMP AND BYPASS LINES SHALL BE OF ADEQUATE CAPACITY AND SIZE TO HANDLE THE ANTICIPATED WET WEATHER FLOW. THE COST OF THE BYPASS INCLUDING THE PUMPS, LINES, LABOR AND OTHER MISCELLANEOUS ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR DUCTILE IRON PIPE. NO ADDITIONAL PAYMENT WILL BE MADE.

SS-6. ALL TRENCHES EXCAVATED ACROSS ANY ROADWAY, SIDEWALKS, DRIVEWAYS, PARKING LOTS, ALLEYWAYS OR OTHER PAVED AREAS, SHALL BE BEDDED AND BACKFILLED IN ACCORDANCE WITH THE CITY OF TULSA STANDARD DETAIL #713. BACKFILL IN STREET RIGHT-OF-WAY AND IN FRONT YARDS SHALL BE COMPACTED TO 95% PROCTOR DENSITY. PRICE OF AGGREGATE BASE IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PVC PIPE. NO ADDITIONAL PAYMENT WILL BE MADE.

SS-7. RESTORATION WILL NOT BE PAID FOR TRENCHLESS CONSTRUCTION METHODS. RESTORATION WILL BE PAID FOR OPEN CUT CONSTRUCTION METHODS.

SS-8. CONNECTIONS TO ALL EXISTING MANHOLES SHALL BE CORED AND NOT BROKEN OR HAMMERED AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE REPLACEMENT.

SS-9. POST REHABILITATION TELEVISION INSPECTION OF LINES INSTALLED BY OPEN CUT SHALL BE PERFORMED BY THE CITY OF TULSA. POST REHABILITATION TELEVISION INSPECTION OF LINES INSTALLED BY TRENCHLESS METHODS SHALL BE PERFORMED BY THE CONTRACTOR. THE COST OF POST CONSTRUCTION TELEVISION INSPECTION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE REHABILITATION OR REPLACEMENT BEING PERFORMED.

SS-10. NUMBER OF SERVICE CONNECTIONS ARE APPROXIMATE, CONTRACTOR TO VERIFY WITH THE USE OF PRE-TELEVISION INSPECTION PER SPEC. 415.

SS-11. SERVICE LATERALS SHALL BE REPLACED TO WITHIN 2' OF THE EASEMENT/RIGHT-OF-WAY LINE, UNLESS OTHERWISE SPECIFIED. MATERIAL OF SERVICE LATERALS LOCATED WITHIN THE RIGHT-OF-WAY SHALL BE PVC, UNLESS OTHERWISE SPECIFIED. PAYMENT FOR SERVICE LATERALS SHALL HAVE TWO PARTS, "SERVICE RECONNECTIONS" AND "SERVICE LINE". THE "SERVICE RECONNECTIONS" PAY ITEM SHALL BE PER "EACH" BASED ON PIPE SIZE AND MATERIAL AND THE "SERVICE LINE" PAY ITEM SHALL BE PER "LINEAR FOOT" FOR THE TYPE OF PIPE INSTALLED AND SHALL INCLUDE EXCAVATION/BACKFILL, PIPE, FITTINGS, SURFACE RESTORATION, AND ALL OTHER APPURTANCES ASSOCIATED WITH THE INSTALLATION OF THE SERVICE LATERAL.

SS-12. PAYMENT FOR SERVICE LATERALS SHALL INCLUDE ALL INCIDENTAL COSTS ASSOCIATED WITH THE INSTALLATION, INCLUDING, BUT NOT LIMITED TO RESTORATION, PAVEMENT REMOVAL AND REPLACEMENT, EXCAVATION, BEDDING, BACKFILL, PIPE AND FITTINGS. A NON-SHEAR COUPLING MAY BE REQUIRED TO CONNECT NEW PVC SERVICE TO EXISTING DUCTILE IRON PIPE.

SS-13. THE MANHOLE RING, COVER, GROUT, SEALS, WATERTIGHT 80 MILS OF RAVEN 405 EPOXY OR APPROVED EQUAL AND OTHER MATERIALS INCIDENTAL TO THE CONSTRUCTION OF MANHOLES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EACH ASSOCIATED MANHOLE PAY ITEM; NO ADDITIONAL PAYMENT SHALL BE MADE. 4' I.D. MANHOLES SHALL NOT BE EPOXY COATED AND HAVE STEPS. 5' I.D. MANHOLES SHALL BE EPOXY COATED AND SHALL NOT HAVE STEPS.

SS-14. IF ANY BRICK SANITARY MANHOLES/STRUCTURES ASSOCIATED WITH THE IDENTIFIED SEWER LINES ARE FOUND, THE CITY SHALL BE NOTIFIED BEFORE WORK COMMENCES FOR AN EVALUATION OF REHABILITATION. REHABILITATION OF ANY BRICK SANITARY MANHOLES/STRUCTURES SHALL BE BY COMPLETED MANHOLE/STRUCTURE REPLACEMENT OR BY METHODS DESCRIBED IN SPECIFICATION 418.

SS-15. WATER TABLE CRADLE SHALL BE INSTALLED WHERE TRENCH CONDITIONS WARRANT ITS USE AS DIRECTED BY THE ENGINEER. THE COST OF THE WATER TABLE CRADLE SHALL BE INCIDENTAL TO SANITARY SEWER PIPE INSTALLATION. NO SEPARATE PAYMENT WILL BE MADE.

SS-16. GRASSED AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SODDING. HYDROMULCH SEEDING WILL BE ALLOWED IN UNDEVELOPED LOTS. MAXIMUM PAY LIMIT FOR SODDING AND SEEDING SHALL BE STANDARD TRENCH WIDTH PLUS 2 FEET ON EACH SIDE OF TRENCH.

SS-17. IF REQUIRED, PAYMENT FOR OBSTRUCTION REMOVAL SHALL BE UTILIZED TO REMOVE CONCRETE ENCASED OR DUCTILE IRON PIPE SEGMENTS DURING TRENCHLESS REPLACEMENT AND SHALL BE APPROVED BY ENGINEER. THIS PAY ITEM SHALL NOT BE PAID WHEN THE INSERTION I REMOVAL PIT IS LOCATED AT THE POINT OF OBSTRUCTION REMOVAL.

SS-18. THE CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE GENERAL NOTES. TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SS-19. THE UNIT PRICE BID FOR TRAFFIC CONTROL DEVICES SHALL INCLUDE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THIS PROJECT.

SS-20. IN LIEU OF PIPE BURSTING, CONTRACTOR MAY ELECT TO INSTALL PIPE BY PIPE REAMING OR PIPE CRUSHING PER CITY OF TULSA STANDARD SPECIFICATIONS 406 AND 407 RESPECTIVELY.

SS-21. REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.

SS-22. IF WARNING LIGHTS TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.

SS-23. ALL ABANDONED SEWER LINES LEFT IN PLACE SHALL BE FILLED WITH CELLULAR CONCRETE FOR THE ENTIRE LENGTH OF THE EXISTING PIPE. NO ADDITIONAL PAYMENT SHALL BE MADE.

SS-24. COORDINATE DEMOLITION, EXCAVATION, BACKFILL, AND PAVEMENT REPLACEMENT WITH STREET PROJECT. BACKFILL TO FINISH GRADE WITH TYPE "A" AGGREGATE BASE, SURFACING BY OTHERS.

QUANTITIES SHOWN ARE FOR BIDDERS' INFORMATION. THEY DO NOT RELIEVE THE CONTRACTOR OF VERIFYING AND PROVIDING ALL ITEMS AS SHOWN ON THE PLANS AND SPECIFICATIONS.

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA

11/18/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

WASTEWATER PAY QUANTITIES, AND PAY ITEMS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

PLAN SCALE: N/A	DRAWN	MDE	11/20/20	APPROVED:
	DESIGNED	JR	11/20/20	
	SURVEY	ARJ	11/20/20	
PROFILE SCALE:	PROJ.MGR.	[illegible]	11/20	
HORIZONTAL: N/A	LEAD MGR.	[illegible]	11/20	
VERTICAL: N/A	FIELD MGR.	[illegible]	11/20	
	RECOMMENDED: DESIGN MANAGER	[illegible]	11-20	CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

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WASTEWATER GENERAL CONSTRUCTION NOTES (REVISED 08/06/2020)

1. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SAFETY PLAN TO THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT PRIOR TO COMMENCEMENT OF WORK. THE SAFETY PLAN SHALL ADDRESS, BUT NOT BE LIMITED TO ISSUES SUCH AS TRAFFIC CONTROL, WORKSITE SAFETY, VENTILATION, WORK EQUIPMENT, FIRST AID, HYGIENE AND OTHER RELATED TOPICS. THE CONTRACTOR SHALL BE EXPECTED TO PERFORM THE WORK IN A MANNER THAT BEST PROTECTS THE SAFETY OF WORKERS, INSPECTORS, BYSTANDERS, AND OTHERS WHO MAY BE IN THE VICINITY OF THE PROJECT. FAILURE TO PERFORM THE WORK AND MAINTAIN THE SITE IN A SAFE MANNER, IN THE OPINION OF THE ENGINEER OR OWNER, SHALL BE SUFFICIENT CAUSE TO STOP ALL WORK UNTIL SAFETY PROBLEMS ARE CORRECTED.

2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF TULSA ENGINEERING SERVICES STANDARDS AND SPECIFICATIONS AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS OF THIS CONTRACT.

3. THE CONTRACTOR SHALL HAVE ONE (1) EXECUTED COPY OF THE CONTRACT DOCUMENTS AT THE JOB SITE AT ALL TIMES.

4. THE CONTRACTOR SHALL, IN COOPERATION WITH THE CITY, DEVELOP AND SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN (TCP), TO THE CITY OF TULSA ENGINEERING SERVICE, FIELD ENGINEERING. THIS TCP SHALL DETAIL SUCH MEASURES AS MAY BE REQUIRED TO ESTABLISH, INSTALL, MAINTAIN AND OPERATE A COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROL SYSTEM DURING THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL PLACE TRAFFIC CONTROL FLAGMEN, BARRICADES, SIGNS, SIGNALS OR OTHER DEVICES AS MAY BE REQUIRED.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION, PERMITTING, AND EXECUTION OF STORMWATER POLLUTION PREVENTION PLAN (SWP3). THE CONTRACTOR SHALL PROVIDE ALL DOCUMENTATION REQUIRED ON THE SWP3 FOR REVIEW AND APPROVAL OF THE PLAN BY FEDERAL, STATE AND LOCAL AUTHORITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE NOTICE OF INTENT AND NOTICE OF TERMINATION.

6. THE CONTRACTOR SHALL PROVIDE TEMPORARY ORANGE SAFETY FENCING AROUND ALL EXCAVATION, INCLUDING TRENCHES, PITS, VAULTS, ETC. TO MAINTAIN SECURITY AND SAFETY FOR ANIMALS, CHILDREN OR ANY BYSTANDER. THE COST OF ORANGE SAFETY FENCING SHALL BE INCLUDED IN OTHER PAY ITEMS.

7. PRIOR TO EXCAVATING, THE CONTRACTOR IS RESPONSIBLE FOR BRACING OR SUPPORTING ANY POWER POLE OR GUY WIRE WITHIN 5 FEET OF EXCAVATION TO THE SATISFACTION OF THE OWNER AND THE UTILITY COMPANY, AT NO ADDITIONAL COST TO THE OWNER.

8. ALL EXCAVATED MATERIAL REMOVED DURING TRENCHING OR EXCAVATION SHALL BE DISPOSED OF AT A SITE APPROVED BY THE OWNER. PRIOR TO TRENCHING AND EXCAVATION, THE CONTRACTOR SHALL SUBMIT THE PROPOSED DISPOSAL SITE TO THE ENGINEER FOR HIS REVIEW. STOCKPILING EXCAVATED MATERIALS IN STREET OR ALLEY RIGHT-OF-WAY MAY BE ALLOWED UPON APPROVAL BY THE ENGINEER. MAINTENANCE OF STOCKPILE SITE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR MUST MAINTAIN STOCKPILE SITES IN A SAFE, POLLUTION FREE CONDITION THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR STORE ANY EQUIPMENT OVERNIGHT IN THE TULSA REGULATORY FLOOD PLAIN.

9. BACKFILL UNDER ALL PAVED SURFACES SHALL BE TYPE "A"AGGREGATE BASE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED BY A VIBRATORY HAND TAMPER TO 95% OF THE STANDARD PROCTOR DENSITY, AS MEASURED BY THE NUCLEAR DENSITY METHOD.

10. THE CONTRACTOR SHALL PROVIDE A DETAILED ACCESS PLAN FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS, CONSTRUCTION ACTIVITIES AND PERMITS THAT MAY BE NEEDED FOR THE IMPLEMENTATION OF THIS PLAN.

11. THE CONTRACTOR MUST NOTIFY THE HOMEOWNER A MINIMUM OF 48 HOURS (SPECIFICATION 400) PRIOR TO BEGINNING ANY REHAB WORK OR CONSTRUCTION ON HOMEOWNER'S PROPERTY.

12. IN ALL AREAS WHERE EXCAVATION WILL OCCUR, CONTRACTOR SHALL VIDEOTAPE ALL CONCRETE PAVEMENT, BUILDINGS, FOUNDATIONS, LANDSCAPING, LAWNS AND TREES PRIOR TO CONSTRUCTION, AT NO ADDITIONAL COST TO THE CITY OF TULSA OR THE HOMEOWNER.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND RESTORATION OF ANY EXISTING STORAGE SHEDS, LOCATED WITHIN THE CONSTRUCTION AREA, THAT ARE DAMAGED DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE CITY OF TULSA OR THE HOMEOWNER.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATION OF ALL EXISTING SANITARY SEWER SERVICE LATERALS IN THE PROJECT AREA. IF ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, EXISTING SERVICE LATERALS SHALL BE REMOVED AND REPLACED USING PIPE OF THE SAME SIZE AND MATERIAL AS THE EXISTING SEWER.

15. ALL DAMAGED PAVEMENT OUTSIDE OF THE TRENCH PAY LINE SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.

16. ALL PAVEMENT REMOVAL SHALL BE SAW CUT AT THE NEAT LINES AS INDICATED IN THE SPECIFICATIONS AND STANDARD DETAILS. SAW CUTS REQUIRED FOR REMOVAL AND REPLACEMENT ITEMS SHALL BE FULL DEPTH OF THE EXISTING PAVEMENT. SAW CUTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER WORK.

17. ALL CONCRETE PAVEMENTS, FLEXIBLE PAVEMENTS, CURB AND GUTTER, AND UNPAVED SURFACES SHALL BE FINISHED TO MATCH EXISTING SURROUNDING SURFACES.

18. CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

19. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED DURING THE COURSE OF CONSTRUCTION. PAYMENT SHALL BE INCLUDED IN RIGHT-OF-WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

20. ALL SANITARY SEWER AND STORM SEWER MANHOLE CASTING AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW ONES. THE OLD CASTINGS AND LIDS SHALL BE DELIVERED TO THE SEWER BASE AT 9319 EAST 42ND STREET AND PLACED IN THE METAL RECYCLE BIN IN THE STOCKROOM AREA (918.669.6130) BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.

21. NO FILL, SPOIL, BEDDING MATERIAL OR EQUIPMENT MAY BE STORED OVERNIGHT WITHIN THE FLOOD PLAIN LIMITS.

22. ALL SANITARY SEWER MANHOLES LOCATED IN THE FLOODPLAIN SHALL HAVE BOLTED SEALED COVERS.

MANHOLE REHABILITATION NOTES

1. ALL MANHOLES, PIPE SIZES AND LENGTHS, DEFECTS, SURFACE TYPES AND THEIR LOCATIONS SHOWN ON THE PLANS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL INFORMATION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING THE WORK.

2. REPLACEMENT MANHOLES SHALL HAVE FLOW LINE AND RIM ELEVATIONS SET TO MATCH THOSE OF EXISTING MANHOLES UNLESS OTHERWISE NOTED BY THE ENGINEER. FRAMES AND COVERS SHALL BE PROVIDED IN ACCORDANCE WITH THE SPECIFICATION REQUIREMENTS.

3. CONTRACTOR SHALL ENSURE THAT ALL MANHOLE FRAME AND COVER CASTINGS HAVE MACHINED SEATING SURFACES WITH A TIGHT FIT AND COMPLY WITH THE OTHER PROVISIONS OF THE MATERIALS SPECIFICATIONS.

4. ACTIVE LEAKING JOINTS OR OTHER DEFECTS OBSERVED BY THE CONTRACTOR, BUT NOT SCHEDULED FOR REHABILITATION, SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY UPON DETECTION.

5. IN AREAS OF MANHOLE REPAIRS, CONTRACTOR SHALL PLACE SPOILS ON PLASTIC SHEETS, PLYWOOD OR OTHER SUITABLE GROUND PROTECTION.

6. THE MANHOLE DEPTHS SHOWN ON THE PLANS ARE FROM SURVEY. HOWEVER, ACCURATE FIELD MEASUREMENTS SHALL BE UTILIZED FOR ANY MANHOLE REPLACEMENT OR REHABILITATION.

7. AT THE TIME OF MANHOLE REHABILITATION, MANHOLE STEPS SHALL BE EVALUATED AND ALL OR NONE SHALL BE REPLACED.

8. CONTRACTOR SHALL BE REQUIRED TO VACUUM TEST ALL NEW MANHOLE INSTALLATIONS AND EXISTING MANHOLES WHERE COMPLETE REHABILITATION IS PERFORMED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARDS AND SPECIFICATIONS.

9. ALL NEW MANHOLE FRAMES AND COVERS INSTALLED ON THIS PROJECT SHALL HAVE A MINIMUM CLEAR OPENING OF 30-INCHES REGARDLESS OF MANHOLE SIZE. NEW MANHOLE FRAMES AND COVERS INSTALLED ON EXISTING MANHOLES MAY HAVE CLEAR OPENINGS OF LESS THAN 30-INCHES WITH ENGINEER'S APPROVAL.

PIPELINE REHABILITATION NOTES

1. CONTRACTOR SHALL MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.

2. POST REHABILITATION TELEVISION INSPECTION OF ALL REPAIR WORK SHALL BE PERFORMED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE COST OF OTHER PAY ITEMS.

3. POINT REPAIR LOCATIONS ARE APPROXIMATE AND SHALL BE DETERMINED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE COST OF OTHER PAY ITEMS.

4. QUANTITIES SHOWN IN THE SUMMARY TABLE ARE AN ESTIMATE FOR WORK SHOWN AND DO NOT REFLECT FINAL WORK. ITEM QUANTITIES NECESSARY TO REHABILITATE PIPELINE SEGMENTS.

5. POINT REPAIR(S) OUTSIDE OF STREET RIGHT-OF-WAY SHALL BE PERFORMED USING LIKE PIPE ACCORDING TO THE CITY OF TULSA CONSTRUCTION SPECIFICATIONS SECTION 412.2.2 (IE EXISTING VCP WILL BE REPAIRED USING VCP, EXISTING PVC WILL BE REPAIRED USING PVC, AND EXISTING DIP WILL BE REPAIRED USING DIP). IF A POINT REPAIR IS LOCATED WITHIN A STREET RIGHT-OF-WAY, THE REPAIR SHALL BE DONE USING PVC, SDR 26, SLIP LINING, OR CURED-IN-PLACE PIPE, UNLESS OTHERWISE NOTED ON THE PLANS. IF AN OBSTRUCTION IS ENCOUNTERED DURING CLEANING AND TELEVISION INSPECTION PRIOR TO OR DURING THE INSERTION OF THE NEW LINE THROUGH THE HOST PIPE, THE CONTRACTOR SHALL USE PVC TO REPAIR THE HOST PIPE AT THE LOCATION OF THE OBSTRUCTION. IN ALL CASES, CONCRETE PIPE SHALL BE REPLACED WITH PVC, SDR 26.

6. PIPELINE REHABILITATION PLANS ARE FOR REFERENCE ONLY AND DO NOT DEPICT ALL OF THE EXISTING UTILITIES.

7. ALL PIPELINE SEGMENTS THAT REQUIRE COMPLETE REPLACEMENT AND ARE LOCATED WITHIN THE STREET RIGHT-OF-WAY MAY ONLY BE REPLACED WITH PVC, SDR 26.

8. PIPE EMBEDMENT WILL BE AS SHOWN IN THE STANDARD DETAIL EXCEPT WHERE SPECIFICALLY NOTED ON THE PLANS.

9. CONTRACTOR SHALL SUBMIT A PROFESSIONAL ENGINEERED TRENCH EXCAVATION SAFETY PLAN FOR ALL EXCAVATIONS IN EXCESS OF 20 FEET OF DEPTH.

10. WHERE THERE IS A DISCREPANCY BETWEEN THE PIPELINE LENGTHS TAKEN FROM ACTUAL FIELD MEASUREMENTS AND THOSE SHOWN ON THE PLANS, THE FIELD MEASUREMENTS SHALL GOVERN.

11. CONTRACTOR SHALL SUPPLY WITH HIS MONTHLY PAY REQUEST, A LIST SHOWING ALL SEWER LINES REPAIRED, THE ADDRESS OF ANY SERVICE LINES THAT ARE RECONNECTED AND THE FOOTAGE OF THE RECONNECTION FROM THE NEAREST DOWNSTREAM MANHOLE.

12. THE TERM "PIPE BURSTING" THAT IS USED THROUGHOUT THE CONSTRUCTION DRAWINGS IS INTENDED TO INCLUDE OTHER SIMILAR TRENCHLESS PIPE REPLACEMENT METHODS, SUCH AS PIPE REAMING AND PIPE CRUSHING. IT DOES NOT INCLUDE SLIP LINING OR CURED-IN-PLACE PIPE.

13. CONTRACTOR MUST EXERCISE DILIGENCE WHEN WORKING AROUND TREES, HOWEVER, IF DAMAGE OCCURS TO TREES LOCATED WITHIN AN EASEMENT CONTRACTOR SHALL NOT BE RESPONSIBLE.

TRAFFIC CONTROL

1. ALL TRAFFIC CONTROL DEVICES, CONSTRUCTION SIGNAGE, BARRICADING, ETC. SHALL BE IN ACCORDANCE WITH THE LATEST REVISED EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN (TCP).

2. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTIFICATION FOR ANY AND ALL STREET/LANE CLOSURES, MODIFICATION OR CHANGES TO THE CONTROL MEASURES TO:

POLICE	918.596.9222
FIRE	918.596.9977
COT TRAFFIC	918.596.9744
EMSA	918.596.3043
MTTA	918.585.1195

3. THE CONTRACTOR SHALL NOTIFY TRAFFIC OPERATIONS 48 HOURS PRIOR TO STARTING WORK OR PRIOR TO REMOVING OR RELOCATING ANY TRAFFIC SIGNS. ALL SIGNS SHALL BE HANDLED SO AS TO AVOID ANY DAMAGE TO THE SIGN OR POST. ALL SIGNS REMOVED DUE TO CONSTRUCTION SHALL BE REINSTALLED BY THE CONTRACTOR.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL CONSTRUCTION SIGNAGE AND BARRICADING, INCLUDING, BUT NOT LIMITED TO, WASHING, REPLACEMENT, REPOSITIONING OF DEVICES. WHEN AND WHERE IT IS DEEMED NECESSARY BY THE CITY OR THE ENGINEER, THE CONTRACTOR SHALL FURNISH AND INSTALL ANY ADDITIONAL TRAFFIC CONTROL DEVICES.

5. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AREA AT ALL TIMES, EXCEPT AS NOTED ON PLANS. LOCAL TRAFFIC TO ALL PUBLIC AND PRIVATE STREETS SHALL BE ACCESSIBLE FROM ANY DETOURS DURING THE CONSTRUCTION OF THE PROJECT.

6. ROADSIDE HAZARDS SHALL BE COMPLETELY BARRICADED AROUND THEIR PERIMETER FOR SAFETY OF PEDESTRIANS AND VEHICLES. NO BARRICADES SHALL BE PLACED UNTIL ALL ADVANCED SIGNING IS IN PLACE.

7. ALL CHANNELING DEVICES, TYPE III BARRICADES, ETC. SHALL BE WEIGHTED DOWN WITH NON-HAZARDOUS MATERIAL WHEN NECESSARY OR WHEN DIRECTED BY THE CITY OR THE ENGINEER.

8. ALL ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TYPE 'A' WARNING LIGHTS.

9. ALL TYPE III BARRICADES SHALL BE FURNISHED WITH A MINIMUM OF TWO (2) TYPE 'A' WARNING LIGHTS.

10. ALL CHANNELING DEVICES SHALL BE PROVIDED WITH TYPE 'C' WARNING LIGHTS.

UTILITIES

1. THE LOCATION OF UTILITY LINES, AS SHOWN ON THESE DRAWINGS, ARE BASED ON ATLAS INFORMATION, UTILITY COMPANY COMMENTS, AND OBSERVED FEATURES. NEITHER THE CITY NOR THE ENGINEER ASSUMES OR IMPLIES ANY RESPONSIBILITY FOR THE ACCURACY OF THIS DATA. SERVICE LINES FROM THE MAIN UTILITY LINES TO ANY BUILDING OR FACILITY MAY NOT BE SHOWN. CONTRACTOR SHALL OBTAIN THE LOCATION OF THESE FROM THE UTILITY COMPANY AND SHALL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THESE LINES OR ANY OTHER LINES OR UTILITIES DURING THE CONSTRUCTION OF THE PROJECT.

2. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC. A MINIMUM OF TWO (2) WORKING DAYS AND A MAXIMUM OF TEN (10) WORKING DAYS PRIOR TO BEGINNING WORK IN ANY AREA. ONE-CALL PHONE: 1.800.522.6543.

3. CONTRACTOR SHALL BRACE UTILITY POLES AND GUY WIRES WITHIN 5 FEET OF ANY EXCAVATION. CONTRACTOR SHALL CONTACT PUBLIC SERVICE COMPANY OF OKLAHOMA (PSO) A MINIMUM OF THREE (3) WEEKS PRIOR TO BRACING AND/OR RELOCATING ANY UTILITY POLES.

QUANTITIES SHOWN ARE FOR BIDDERS' INFORMATION. THEY DO NOT RELIEVE THE CONTRACTOR OF VERIFYING AND PROVIDING ALL ITEMS AS SHOWN ON THE PLANS AND SPECIFICATIONS.

REGISTERED PROFESSIONAL ENGINEER — JORDAN RODICH — 26548 — OKLAHOMA

11/17/2020

OKLAHOMA CA #1480
EXP. DATE 6/30/21

REVISION	BY	DATE

WASTEWATER CONSTRUCTION NOTES

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

				APPROVED:
PLAN SCALE: N/A	DRAWN	MDE	11/20/20	
	DESIGNED	JR	11/20/20	
	SURVEY	ARJ	11/20/20	
PROFILE SCALE: N/A	PROJ.MGR.	[illegible]	11/20/20	
HORIZONTAL:	LEAD MGR.	APS	11/20	
VERTICAL: N/A	FIELD MGR.	[illegible]	11/20	
	RECOMMENDED: DESIGN MANAGER	HAS	11-20	CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

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SUMMARY OF EARTHWORK QUANTITIES

P&P SHEET NO.	STATION TO STATION	UNCLASSIFIED EXCAVATION	UNCLASSIFIED BORROW	TYPE A SALVAGED TOPSOIL
		202(A)	202(C)	205
		CY	CY	CY
24	W. 22ND PL. STA 80+00 TO STA 84+19.03	1139	121	80
25	S. MAYBELLE AVE. STA 56+92.24 TO STA 60+42.45	269	265	40
26	S. NOGALES AVE. STA 90+21.45 TO 94+00.00	46	4	10
27	S. NOGALES AVE. STA 94+00 TO 95+97.55	30	2	5
	TOTAL	1484	392	135

SUMMARY OF PAVING QUANTITIES

P&P SHEET NO.	STATION TO STATION	AGGREGATE BASE, TYPE A	SUBGRADE METHOD B	SEPERATOR FABRIC	GEOGRID REINFORCEMENT (TX7)	FABRIC REINFORCEMENT	ASPHALT CONCRETE TYPE S3 (PG 70-24 OK)	ASPHALT CONCRETE TYPE S4 (PG 70-24 OK) (INSOLUBLE)	ASPHALT CONCRETE TYPE S5 (PG 70-24 OK) (INSOLUBLE)	TYPE I AC PATCH (NON-ARTERIAL)	TYPE I APC PATCH (NON-ARTERIAL)	TYPE I APC PATCH (ARTERIAL)	TYPE I PCC PATCH (ARTERIAL)	COMBINED CURB AND GUTTER (6" BAR)	CONC. VALLEY GUTTER	CONCRETE SIDEWALK (4")	SIDEWALK RAMP	TACTILE WARNING DEVICE	CONCRETE DRIVE
		303	310(B)	325	326	401	411(B)	411(C)	411(D)	SPEC	SPEC	SPEC	SPEC	609(B)	609(B)	610(A)	SPEC	610(I)	610(E)
		CY	SY	SY	SY	SY	TONS	TONS	TONS	CY	CY	CY	CY	LF	LF	SY	EA	SF	SY
24	W. 22ND PL. STA 80+00 TO STA 84+19.03	470	1229	1536	1229	-	267	107	-	-	-	-	-	722	-	375	4	50	109
25	S. MAYBELLE AVE. STA 56+92.24 TO STA 60+42.45	499	1271	1589	1271	-	284	114	-	-	-	-	-	594	74	404	4	40	180
26	S. NOGALES AVE. STA 90+21.45 TO 94+00.00	43	-	-	170	1389	-	300	4	-	43	-	-	548	-	265	7	70	79
27	S. NOGALES AVE. STA 94+00 TO 95+97.55	53	-	-	-	811	-	182	2	-	-	-	-	331	-	211	2	20	176
	23rd & JACKSON INTERSECTION	8	23	23	23	-	-	-	-	-	-	-	8	21	-	16	-	-	-
	PATCHES FOR SANITARY SEWER POINT REPAIRS	33	100	100	100	-	-	-	-	10	9	11	-	-	-	-	-	-	-
	TOTAL	1106	2623	3248	2793	2200	551	703	6	10	52	11	8	2126	74	1271	17	180	544

SUMMARY OF EROSION CONTROL

SHEET NO.	STATION TO STATION	TEMPORARY SILT FENCE	TEMPORARY SEDIMENT FILTER	SEEDING
		221(C)	221(D)	232(A)
		LF	EA	ACRE
	W. 22ND PL. STA 80+00 TO STA 84+19.03	-	2	-
	S. MAYBELLE AVE. STA 56+92.24 TO STA 60+42.45	110	4	-
	S. NOGALES AVE. STA 90+21.45 TO 94+00.00	-	3	-
	S. NOGALES AVE. STA 94+00 TO 95+97.55	-	-	-
	OTHER AREAS	52	10	1
	TOTAL	162	19	1

SUMMARY OF REMOVAL QUANTITIES

PLAN SHEET NO.	STATION TO STATION	CLEARING & GRUBBING	COLD MILL PAVEMENT	REMOVAL OF ASPHALT OVER CONCRETE PAVEMENT	REMOVAL OF CONCRETE PAVEMENT	REMOVAL OF CURB	REMOVAL OF CONCRETE SIDEWALK	REMOVAL OF DRIVEWAY	REMOVAL OF 18" DIA. DRAIN PIPE	REMOVAL OF 27" DIA. DRAIN PIPE	REMOVAL OF INLETS	REMOVAL OF LIGHT POLES	SAWCUT PAVEMENT	REMOVAL OF TRAFFIC ITEMS
		201(A)	412	619(B)	619(B)	619(B)	619(B)	619(B)	619(B)	619(B)	619(B)	619(B)	619(C)	805(A)
		ACRE	SY	SY	SY	LF	SY	SY	LF	LF	EA	EA	LF	EA
21	W. 22ND PL. STA 80+00 TO STA 84+19.03	0.5	-	115	1056	815	-	21	-	-	2	3	48	-
21	S. MAYBELLE AVE. STA 56+92.24 TO STA 60+42.45	0.5	-	102	1007	380	60	130	83	-	1	-	149	2
21	S. NOGALES AVE. STA 90+21.45 TO 94+00.00	0.2	1389	50	-	548	182	85	-	-	3	-	959	2
21	S. NOGALES AVE. STA 94+00 TO 95+97.55	0.2	811	-	-	331	211	-	-	-	-	-	414	2
	23rd & JACKSON INTERSECTION	-	-	-	23	21	16	-	-	-	-	-	-	-
	PATCHES FOR SANITARY SEWER POINT REPAIRS	-	-	273	-	-	-	-	-	-	-	-	-	-
	PHASE III & IV HOUSING SITES	-	-	-	-	-	-	-	301	640	1	-	-	-
	TOTAL	1	2200	540	2086	2095	469	236	384	640	7	3	1570	6

SUMMARY OF CONSTRUCTION TRAFFIC CONTROL

SHEET NO.	STATION TO STATION	CONSTRUCTION SIGNING								
		CONSTRUCTION SIGNS 0 TO 6.25 SF	CONSTRUCTION SIGNS 6.25 TO 15.99 SF	CONSTRUCTION SIGNS 16 TO 32.99 SF	BARRICADES (TYPE III)	WARNING LIGHTS (TYPE A)	WARNING LIGHTS (TYPE C)	DRUMS	TUBE CHANNELIZERS	PROJECT SIGN
		880(B)	880(B)	880(E)	880(C)	880(E)	880(E)	880(F)	880(G)	SPECIAL
		SD	SD	SD	SD	SD	SD	SD	SD	EA
30	W 22ND ST/W 22ND PL/NOGALES AVE/MAYBELLE AVE/W 23RD ST	240	1800	240	2880	5760	2040	3600	3600	2
31/32	W 23RD ST	0	0	0	0	0	0	0	0	0
	TOTAL	240	1800	240	2880	5760	2040	3600	3600	2

SUMMARY OF SIGN LOCATIONS

P&P SHEET NO.	LOCATION STREET	LOCATION STATION	DESCRIPTION	ACTION	MUTCD TYPE	SIZE	AREA/ SIGN	# OF SIGNS	TOTAL AREA	POSTS CO T 608 2"	POSTS CO T 608 1 3/4"	POSTS CO T 608 1 1/2"
						IN	SF	EA	SF	LF	LF	LF
24	W 22ND PLACE S	80+39 LT	STOP	NEW	R1-1	30x30	6.25	1	6.25	3	10.5	1.5
			NEIGHBORHOOD STREET NAME BLADE (W 22ND PL S)	NEW		32x9	2	2	4			
			NEIGHBORHOOD STREET NAME BLADE (S NOGALES AV)	NEW		32x9	2	2	4			
		80+67 RT	NO PARKING (SYMBOL)	NEW	R8-3	24x24	4.00	1	4.00	3	10.5	
		81+25 LT	NO PARKING (SYMBOL)	NEW	R8-3	24x24	4.00	1	4.00	3	10.5	
		81+73 RT	NO PARKING (SYMBOL)	NEW	R8-3	24x24	4.00	1	4.00	3	10.5	
		82+80 RT	NO PARKING (SYMBOL)	NEW	R8-3	24x24	4.00	1	4.00	3	10.5	
		83+55 LT	NO PARKING (SYMBOL)	NEW	R8-3	24x24	4.00	1	4.00	3	10.5	
		83+85 RT	STOP	NEW	R1-1	30x30	6.25	1	6.25	3	10.5	1.5
			NEIGHBORHOOD STREET NAME BLADE (W 22ND PL S)	NEW		32x9	2	2	4			
			NEIGHBORHOOD STREET NAME BLADE (S MAYBELLE AV)	NEW		32x9	2	2	4			
25	S MAYBELLE AVE	57+13 LT	STOP	NEW	R1-1	30x30	6.25	1	6.25	3	10.5	1.5
			NEIGHBORHOOD STREET NAME BLADE (W 23RD ST S 1000)	NEW		32x9	2	2	4			
			NEIGHBORHOOD STREET NAME BLADE (S MAYBELLE AV 2300)	NEW		32x9	2	2	4			
		59+25 RT	SPEED LIMIT (25 MPH)	NEW	R2-1	18x24	3	1	3	3	10.5	
		58+09 LT	NO PARKING (SYMBOL), TO CORNER	REPLACE	R8-3hP	24x30	5	1	5	3	10.5	
26	S NOGALES AVE	90+38 LT	STOP	NEW	R1-1	30x30	6.25	1	6.25	3	10.5	
			NEIGHBORHOOD STREET NAME BLADE (W 23RD ST S 1000)	NEW		32x9	2	2	4			
			NEIGHBORHOOD STREET NAME BLADE (S NOGALES AV 2300)	NEW		32x9	2	2	4			
27		92+25 RT	SPEED LIMIT (25 MPH)	NEW	R2-1	18x24	3	1	3	3	10.5	
				TOTAL					88	36	126	4.5

SUMMARY OF DRIVEWAY QUANTITIES

P&P SHEET NO.	STATION	APPROX LENGTH	APPROX WIDTH	SLOPE	AGGREGATE BASE, TYPE A	CONCRETE DRIVEWAY
		FT	FT	%	303 SY	610(G) SY
24	W. 22ND PL. STA 81+74.88 TO STA 82+28.88 LEFT	13	24	10	60	55
24	W. 22ND PL. STA 82+51.22 TO STA 83+05.22 LEFT	13	24	10	60	55
25	S. MAYBELLE AVE. STA 58+17.90 TO STA 58+69.80 LEFT	18	22	9	64	58
25	S. MAYBELLE AVE. STA 59+02.78 TO STA 59+52.66 LEFT	18	20	9	60	54
25	S. MAYBELLE AVE. STA 59+78.61 TO STA 60+32.70 RIGHT	20	24	7	75	68
26	S. NOGALES AVE. STA 91+49.26 TO 91+73.26 LEFT	11	24	8	32	29
26	S. NOGALES AVE. STA 91+55.75 TO 91+79.75 RIGHT	14	24	8	40	37
26	S. NOGALES AVE. STA 92+48.85 TO 92+85.66 RIGHT	16	31	8	59	54
26	S. NOGALES AVE. STA 92+67.15 TO 92+84.60 LEFT	12	18	8	25	23
27	S. NOGALES AVE. STA 93+36.22 TO 94+12.06 RIGHT	18	24	8	69	63
27	S. NOGALES AVE. STA 94+86.06 TO 95+32.35 RIGHT	18	24	8	53	49
27	S. NOGALES AVE. STA 95+58.07 TO 95+97.55LEFT	21	24	2	71	65
	TOTAL				668	610

QUANTITIES SHOWN ARE FOR BIDDERS' INFORMATION. THEY DO NOT RELIEVE THE CONTRACTOR OF VERIFYING AND PROVIDING ALL ITEMS AS SHOWN ON THE PLANS AND SPECIFICATIONS.

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

SUMMARY OF ROADWAY QUANTITIES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		4/20
RECOMMENDED: DESIGN MANAGER		11.20

APPROVED: CITY ENGINEER

FILE: DRAWING:

DATE: 11/20/2020

ATLAS PAGE NO.: 35

SHEET 12 OF 69 SHEETS

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SUMMARY OF STORMWATER QUANTITIES FOR RIVERWEST CONTRACT 4

				PIPE INSTALLATION																		RCP							
STR NO.	P&P SHEET NO.	LOCATION	DESCRIPTION	PIPE SIZE (IN)	EST. DEPTH (FT)	TRENCH EXC. (CY)	STD. BEDDING (CY)	CI GRATE ELEV.	STRUC. DEPTH (FT)	ADD DEPTH (FT)	STR. FLOW LINE (IN)	STR. RIM ELEV.	REMOVE EXISTING MANHOLE (EA)	REMOVE EXISTING INLET (EA)	INLET DESC. (EA)	STD. 4' DIA. MANHOLE (EA)	STD. 5' DIA. MANHOLE (EA)	STD. 6' DIA. MANHOLE (EA)	STD. 8' DIA. MANHOLE (EA)	STD. CI CURB (EA)	STD. TYPE B GRT & FRM (EA)	MANHOLE FRAME & COVER (EA)	ODOT STANDARD MEDIAN DRAIN (EA)	15" (FT)	18" (FT)	24" (FT)	30" (FT)	36" (FT)	42" (FT)	48" (FT)	43"X68" ELLIPTICAL (FT)
A	36	0+00.00	EX MANHOLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	36	0+45.31	CONST 8' ID MANHOLE	-	-	-	-	-	14.42	8.42	622.15	636.57	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-
e	36	2+21.81	CICI DES 3	43X68	6	715	286	631.55	8.61	4.90	622.94	631.55	-	-	DES 3	-	-	-	-	3	3	-	-	-	-	-	-	-	-	173 *
2	36	2+55.44	CONST 8' ID MANHOLE	48	4	79	37	-	9.03	2.30	623.12	632.15	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	30	-
3	36	3+22.62	CONST 8' ID MANHOLE	48	4	165	78	-	11.01	5.01	623.41	634.42	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	63	-
4	37	4+78.56	CONST 6' ID MANHOLE	42	4	349	164	-	7.14	1.14	624.61	631.75	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	152	-	-
5	37	6+82.77	CONST 8' ID MANHOLE	36	4	398	187	-	5.79	-	626.05	631.84	1	-	-	-	-	-	1	-	-	1	-	-	-	-	200*	-	-	-
a	37	7+25.82	CICI DES 2B	15	2.5	22	12	631.86	3.67	-	628.19	631.86	-	-	DES 2B	-	-	-	-	4	2	-	-	39 *	-	-	-	-	-	-	-
d	37	0+00.00	CICI DES 2	15	2.5	12	7	631.33	3.03	-	628.30	631.33	-	-	DES 2	-	-	-	-	2	2	-	-	22 *	-	-	-	-	-	-	-
c	37	0+24.87	CICI DES 3	18	2.5	5	3	631.46	3.63	-	627.83	631.46	-	1	DES 3	-	-	-	-	3	3	-	-	-	8 *	-	-	-	-	-	-
b	37	0+80.28	CICI DES 4	24	2.5	7	4	631.46	4.13	0.42	627.33	631.46	-	1	DES 4	-	-	-	-	4	4	-	-	-	8 *	-	-	-	-	-	-
6	37	0+24.25	CONST 5' ID MANHOLE	24	2.5	19	11	-	4.56	-	627.25	631.81	-	-	-	-	1	-	-	-	-	1	-	-	-	20 *	-	-	-	-	-
7	37	0+98.49	CONST 4' ID MANHOLE	18	3	10	5	-	5.35	-	627.98	633.33	-	-	-	1	-	-	-	-	-	1	-	-	14 *	-	-	-	-	-	-
-	37	-	CONNECT TO EXISTING 24" RCP	24	3	29	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28 *	-	-	-	-
8	38	1+11.46	CONST 4' ID MANHOLE	30	4	156	70	-	8.26	2.26	625.33	633.59	-	-	-	1	-	-	-	-	-	1	-	-	-	-	108*	-	-	-
f	38	2+95.01	ODOT STANDARD MEDIAN DRAIN SMD-4	24	3.5	200	96	630.25	3.52	-	626.73	630.25	-	-	SMD-4	-	-	-	-	-	-	-	1	-	-	180 *	-	-	-	-
9	39	3+81.40	CONST 4' ID MANHOLE	18	3.5	65	30	-	4.32	-	627.64	631.96	-	-	-	1	-	-	-	-	-	1	-	-	82 *	-	-	-	-	-
10	39	4+67.00	CONST 4' ID MANHOLE	18	3	60	30	-	5.66	-	628.05	633.71	-	-	-	1	-	-	-	-	-	1	-	-	82 *	-	-	-	-	-
g	39	5+48.28	ODOT STANDARD MEDIAN DRAIN SMD-4	18	2.5	50	28	631.03	2.59	-	628.44	631.03	-	-	SMD-4	-	-	-	-	-	-	-	1	-	-	77 *	-	-	-	-
h		-	CICI DES 4(2A)	-	-	-	-	629.56	3.94	0.23	625.62	629.56	-	1	DES 4(2A)	-	-	-	-	6	4	-	-	-	-	-	-	-	-	-
i		-	CICI DES 3	-	-	-	-	635.15	2.62	-	632.53	635.15	-	1	DES 3	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-
j		-	CICI DES 3A	-	-	-	-	635.50	2.76	-	632.74	635.50	-	1	DES 3A	-	-	-	-	4	3	-	-	-	-	-	-	-	-	-
k		-	CICI DES 3A	-	-	-	-	635.51	2.65	-	632.86	635.51	-	1	DES 3A	-	-	-	-	4	3	-	-	-	-	-	-	-	-	-
TOTAL						2343	1063						1	6		4	1	1	4	33	27	10	2	61	271	228	108	200	152	93	173

* STORM PIPE MUST BE RCP DUE TO DEPTH OF COVER

QUANTITIES SHOWN ARE FOR BIDDERS' INFORMATION. THEY DO NOT RELIEVE THE CONTRACTOR OF VERIFYING AND PROVIDING ALL ITEMS AS SHOWN ON THE PLANS AND SPECIFICATIONS.

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

SUMMARY OF STORMWATER QUANTITIES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

PLAN SCALE: N/A	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE: HORIZONTAL: N/A VERTICAL: N/A	PROJ MGR.	[illegible]	11/20/20
	LEAD MGR.	BDC	11/20
	FIELD MGR.	ZRW	11/20
	RECOMMENDED: DESIGN MANAGER	HMS	11-20

APPROVED:

CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 13 OF 69 SHEETS

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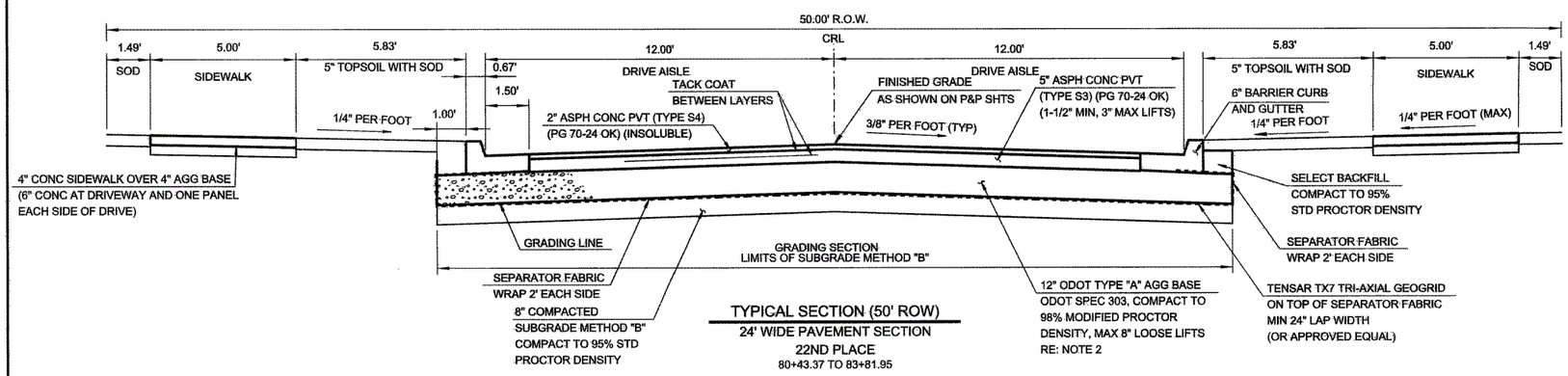
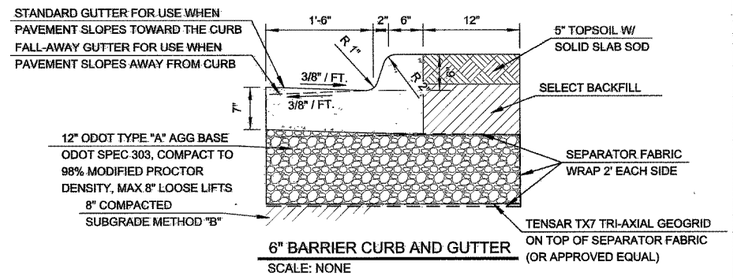
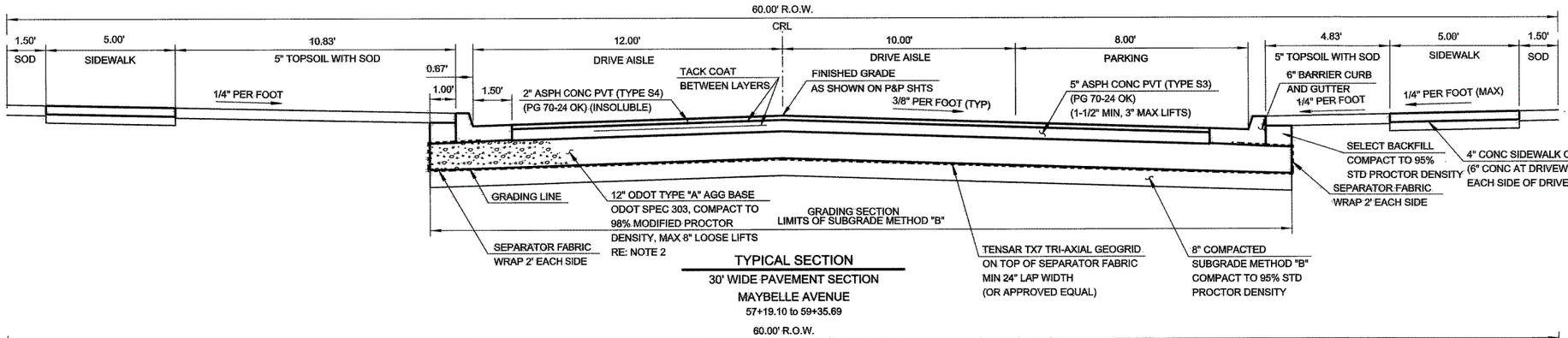


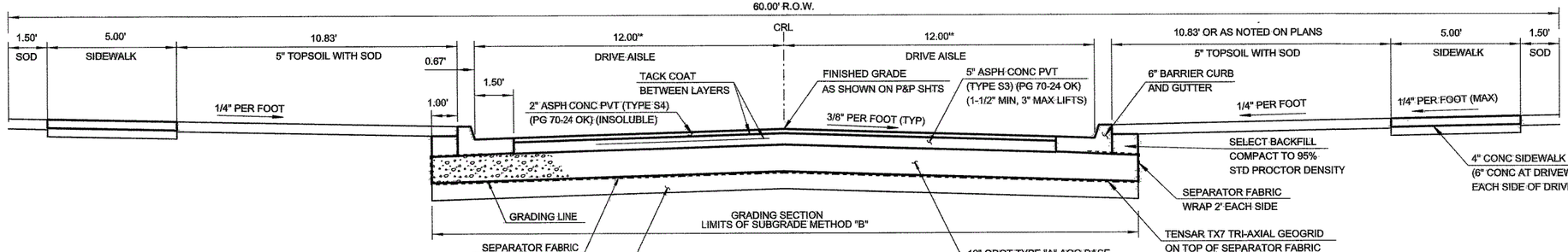
TYPICAL SECTION (50' ROW)
24' WIDE PAVEMENT SECTION
22ND PLACE
80+43.37 TO 83+81.95



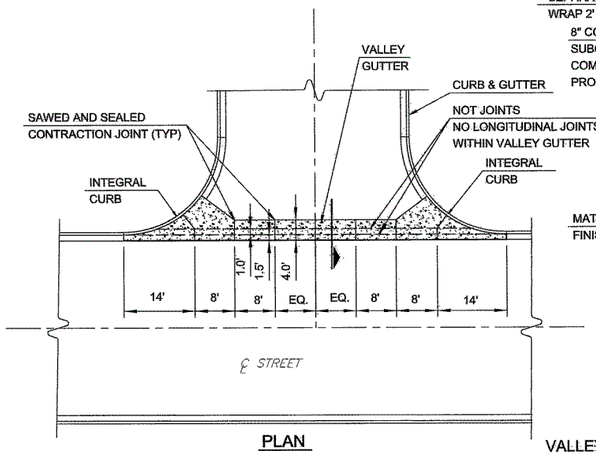
6" BARRIER CURB AND GUTTER
SCALE: NONE



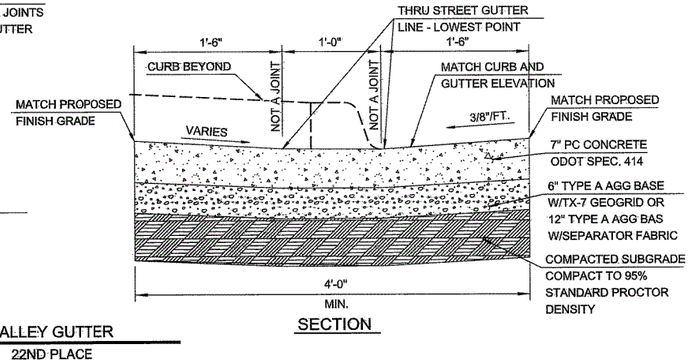
TYPICAL SECTION
30' WIDE PAVEMENT SECTION
MAYBELLE AVENUE
57+19.10 to 59+35.69



TYPICAL SECTION
24' WIDE PAVEMENT SECTION
MAYBELLE AVENUE
59+41.69 to 60+42.45



PLAN



SECTION

VALLEY GUTTER
22ND PLACE
20+20.03 - 23+00.20

VALLEY GUTTER NOTES:
1. CONCRETE SHALL BE ODOT SPEC 414.
2. EXPANSION JOINTS ARE REQUIRED AT INTERSECTION WITH CURB AND GUTTER.
3. VALLEY GUTTER TO BE PAID FOR UNDER ITEM 414(A) AND 414(G) PC CONCRETE PAVEMENT. PLAN QUANTITIES INCLUDE THE VOLUME OF CONCRETE FOR INTEGRAL CURBS ASSOCIATED WITH THE VALLEY GUTTER.

NOTES:
1. REFER TO ELEC/ LANDSCAPE/ IRR PLANS FOR LIGHTING AND STREETSCAPE
2. PLACE AND COMPACT ODOT TYPE "A" AGGREGATE IN ONE (1) COMPACTED LIFT WITH THICKNESS OF 6 INCHES. CONTRACTOR TO STRIVE FOR FOR COMPACTION OF AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY. PROOFROLL WITH LOADED TANDEM AXLE DUMP TRUCK. AREAS WITH UNSTABLE AGGREGATE SHALL BE FURTHER REINFORCED WITH 2ND LAYER OF GEOGRID EXTENDING A MINUMUM OF 3 FEET INTO ADJOINING STABLE AGGREGATE. PLACE AND COMPACT ODOT TYPE "A" AGGREGATE IN ONE (1) COMPACTED LIFT WITH THICKNESS OF 6 INCHES AND COMPACTION OF AT LEAST 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY.



11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

TYPICAL SECTIONS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: N.A.
PROFILE SCALE: HORIZONTAL: N.A. VERTICAL: N.A.

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 14 OF 69 SHEETS

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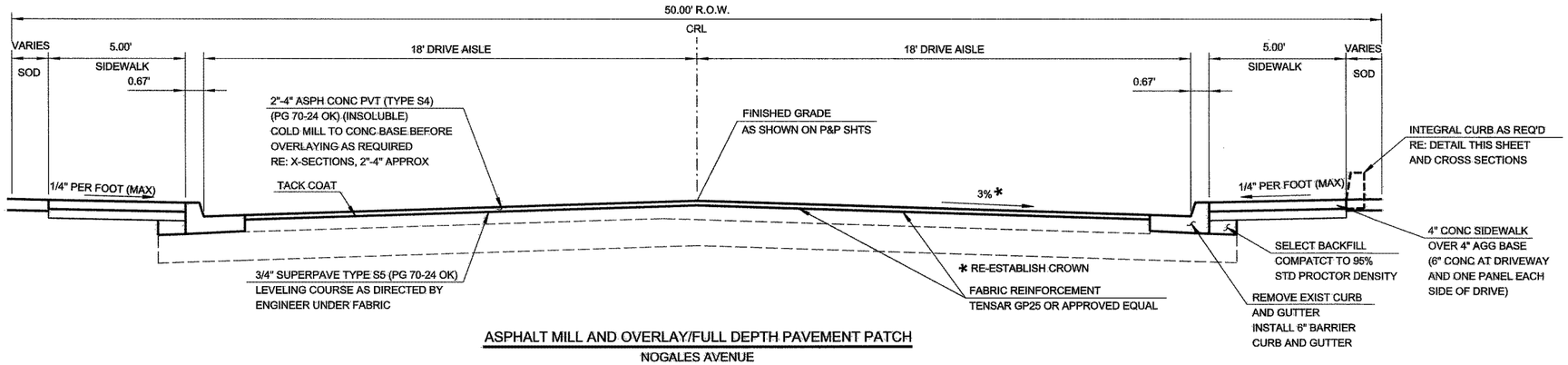
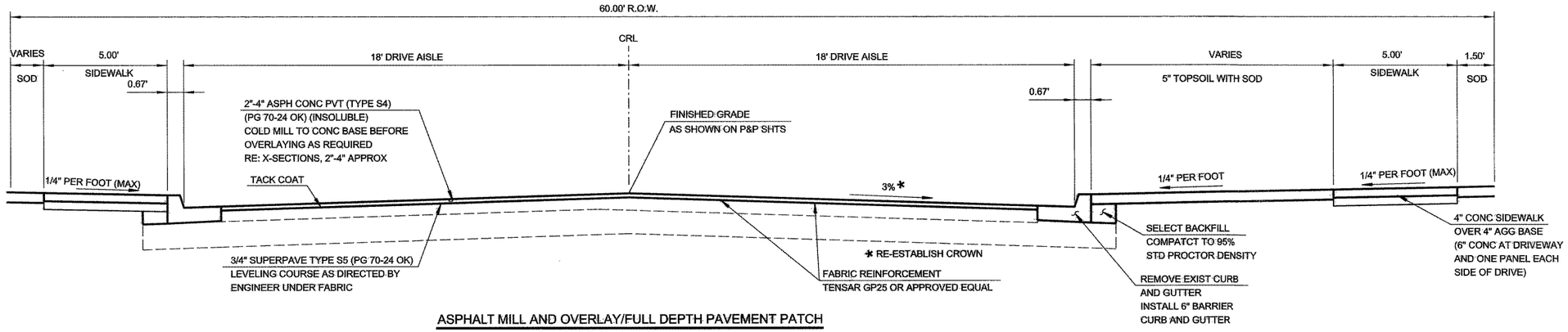


ASPHALT MILL AND OVERLAY/FULL DEPTH PAVEMENT PATCH

NOGALES AVENUE

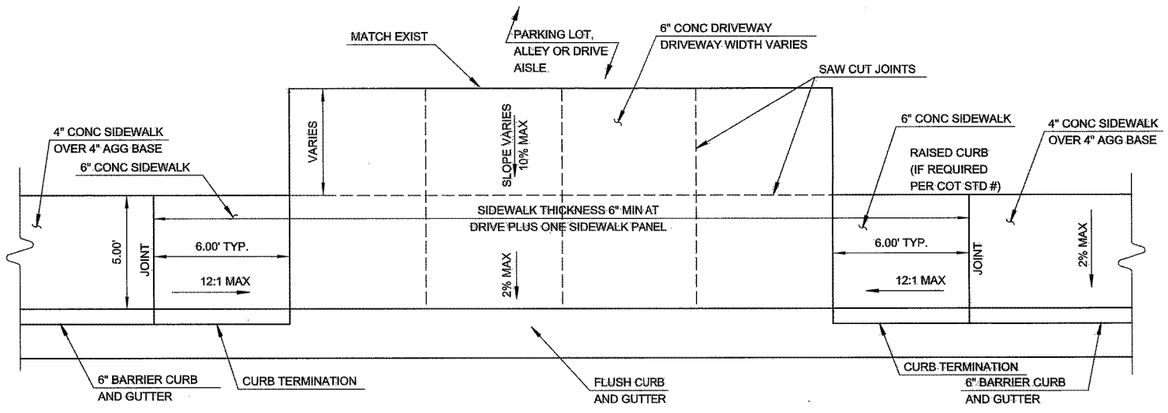
90+25 to 92+98



ASPHALT MILL AND OVERLAY/FULL DEPTH PAVEMENT PATCH

NOGALES AVENUE

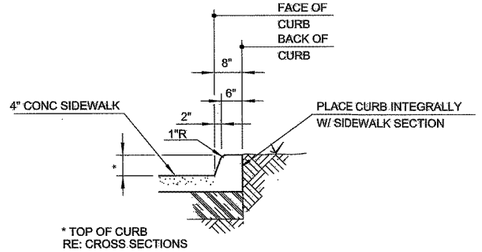
93+72 to 95+97.55



CURB CUT DRIVEWAY DETAIL

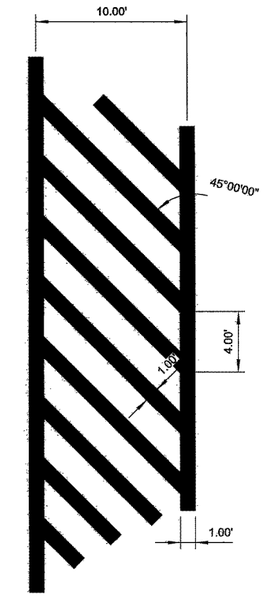
NOGALES AVENUE

91+43 - 92+92



INTEGRAL SIDEWALK CURB

SCALE: NONE



ZEBRA TYPE CROSSWALK

SCALE: NONE

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020

TYPICAL SECTIONS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: N.A.	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.		11/20/20
HORIZONTAL: N.A.	LEAD MGR.		11/20
	FIELD MGR.		11/20
VERTICAL: N.A.	RECOMMENDED: DESIGN MANAGER		11-20

APPROVED:

CITY ENGINEER

FILE: DRAWING:

DATE: 11/20/2020

ATLAS PAGE NO.: 35

SHEET 15 OF 69 SHEETS

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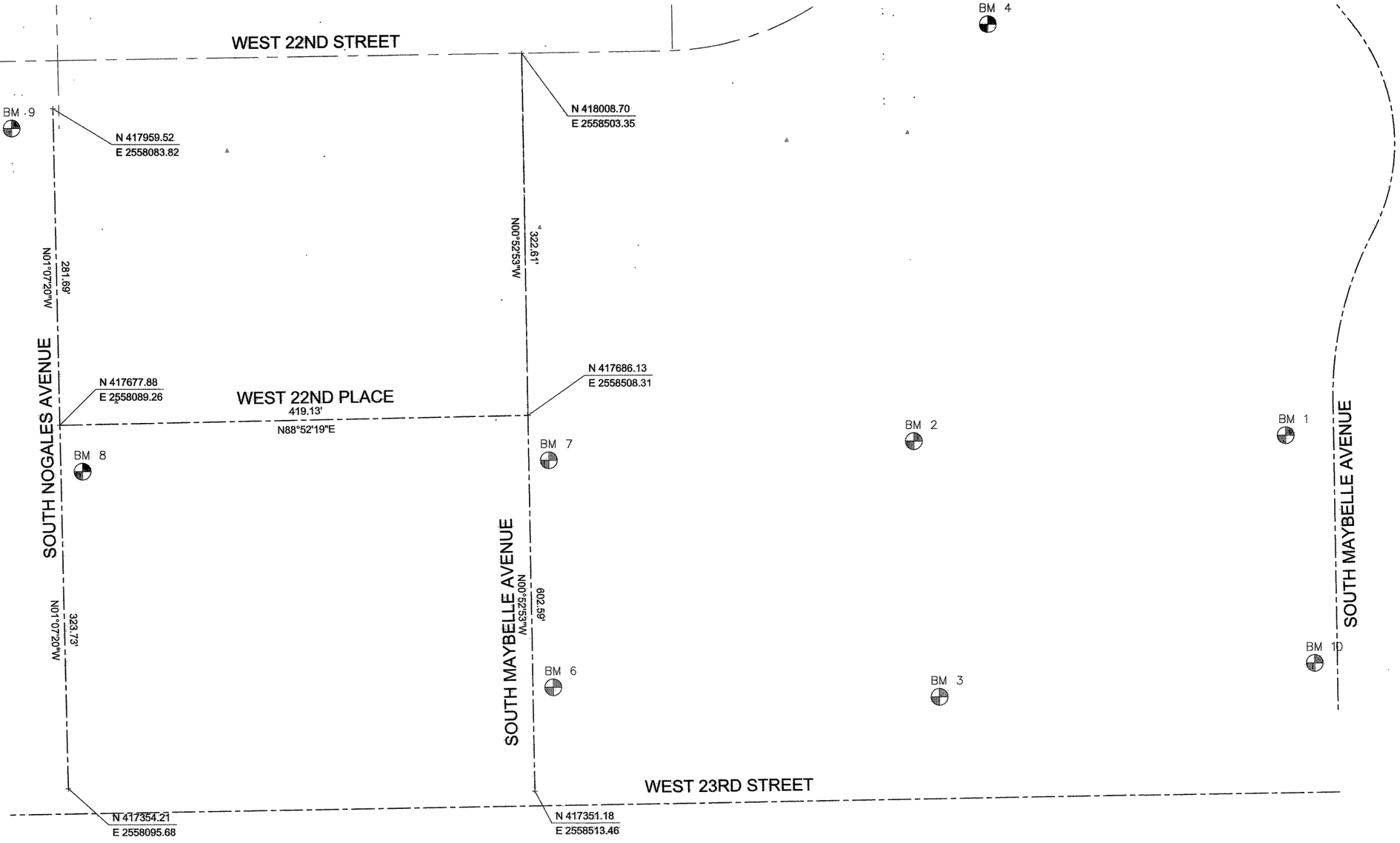

ADS BENCHMARK # GPS 7

1/2" REBAR - 2" ALUMINUM CAP - FLUSH - STAMPED "ODOT GPS 7", SET WEST OF HWY 75, AND ON THE SOUTH SIDE OF 31ST ST.
N 413225.395, E 2556370.926, ELEV 635.514 (NAVD 1988)

BENCHMARK 1
CHISELED SQUARE
N: 417667.574
E: 2559185.253
ELEV: 631.551
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

BENCHMARK 2
CHISELED SQUARE
N: 417662.539
E: 2558852.597
ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 3
CHISELED SQUARE
N: 417434.527
E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

BENCHMARK 4
CHISELED SQUARE
N: 418034.225
E: 2558919.468
ELEV: 632.162
(LOCATED ON THE SOUTH CURB OF THE NORTH PARKING LOT)

BENCHMARK 5
CHISELED SQUARE
N: 417249.121
E: 2559207.250
ELEV: 636.393
(LOCATED ON THE SOUTH CURB OF THE FIRST DRIVEWAY ON THE WEST SIDE OF S JACKSON AVE SOUTH OF W 23RD ST)

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)

BENCHMARK 10
SSMH LID
N: 417464.378
E: 2559210.585
ELEV: 635.450
(LOCATED ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

N

50 0 25 50
1"=50' FULL SIZE
1"=100' HALF SIZE

BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

REVISION	BY	DATE

OKLAHOMA LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020

OKLAHOMA CA #1460
EXP.DATE 6/30/21

GEOMETRIC LAYOUT PLAN

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

PLAN SCALE: 1"=40'-0"	DRAWN	MDE	11/20/20	APPROVED:
	DESIGNED	JR	11/20/20	
	SURVEY	ARJ	11/20/20	
PROFILE SCALE:	PROJ.MGR.	[illegible]	11/2020	
HORIZONTAL: N.A.	LEAD MGR.	MDC	11/20	
	FIELD MGR.	[illegible]	11/20	
VERTICAL: N.A.	RECOMMENDED: DESIGN MANAGER	HAS	11-20	CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 16 OF 69 SHEETS

11/16/2020 4:11:22 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\16-Geom.dgn

ALTA/NSPS Land Title Survey with Topography

OF A PART OF

Section 14, T-19-N, R-12-E

TULSA COUNTY, OKLAHOMA

Legend

3/8" IRON PIN FOUND (UNLESS OTHERWISE NOTED)	UTILITY MANHOLE
3/8" IPS W/ PINK "ATLAS 8060" CAP (UNLESS OTHERWISE NOTED)	WATER METER
AIR CONDITIONER UNIT	WATER VALVE
BENCHMARK	BOREHOLE
BUSH	CORRUGATED METAL PIPE
CABLE/TV PEDESTAL	CORRUGATED PLASTIC PIPE
DOWN SPOUT	CHISELED 'X' FOUND
DOWN GUY	CHISELED 'X' SET
ELECTRIC METER	IRON PIN FOUND
ELECTRIC PEDESTAL-RISER	IRON PIN SET
FIRE HYDRANT	PK NAIL FOUND
FLAG POLE	PK NAIL SET
GAS METER	POINT OF BEGINNING
GAS RISER	POINT OF COMMENCEMENT
GAS VALVE	REINFORCED CONCRETE PIPE
GROUND LIGHT	SATELLITE DISH
GUARD POST	TOP OF GRATE
IRRIGATION CONTROL VALVE	TOP OF RIM
LIGHT POLE	TERMITE TRAP
MAILBOX	BUILDING SETBACK LINE
POWER POLE	EASEMENT
SANITARY SEWER CLEANOUT	FENCE LINE
SANITARY SEWER LAMPHOLE	OVERHEAD CABLE
SANITARY SEWER MANHOLE	OVERHEAD ELECTRIC
SIGN	OVERHEAD TELEPHONE
SPRINKLER HEAD	OVERHEAD UTILITIES MISC.
STORM DRAIN INLET	SANITARY SEWER
STORM DRAIN MANHOLE	STORM DRAIN
TELEPHONE PEDESTAL	UNDERGROUND CABLE
TRAFFIC SIGNAL LIGHT POLE	UNDERGROUND ELECTRIC
TRAFFIC SIGNAL MANHOLE	UNDERGROUND GAS LINE
TRANSFORMER	UNDERGROUND TELEPHONE
	WATERLINE

R 12 E

WEST 21ST STREET

SOUTH UNION AVENUE

CLOSED

CLOSED

T 19 N

N 89°41'14" E 574.62'

N 00°52'34" W 142.43'

N 00°14'00" W 338.19'

N 00°52'53" W 302.83'

S 38°34'14" E 194.44'(PLAT) 194.92'(FIELD)

S 00°47'32" E 300.88'

658.90' S 89°07'09" W

L=164.96'(FIELD) R=140.00'(FIELD) =172.22'(PLAT) R=150.00'(PLAT)

L=275.50'(FIELD) R=344.71' L=168.46'(PLAT)

BM #400000 SET CHSQ N=418,034.225 E=2,558,919.468 ELEV=632.16'

BM #100000 SET CHSQ N=417,667.574 E=2,559,185.253 ELEV=631.55'

BM #200000 SET CHSQ N=417,662.539 E=2,558,852.997 ELEV=631.18'

BM #300000 SET CHSQ N=417,434.527 E=2,558,874.586 ELEV=632.65'

BM #500000 SET CHSQ N=417,249.121 E=2,559,207.250 ELEV=636.39'

BM #600000 SET CHSQ N=417,443.776 E=2,558,530.139 ELEV=632.93'

BM #700000 SET CHSQ N=417,646.066 E=2,558,526.818 ELEV=630.41'

BM #800000 SET CHSQ N=417,636.686 E=558,109.458 EV=636.24'

W. 22nd Place

W. 23rd Street

S. Nogales Avenue

S. Maybelle Avenue

S. Jackson Avenue

BRICK BUILDING

COMM. TOWER CONTROL BLDG.

CHSQ

RSR CONDUIT COX

CONDUIT ON BLDG (x3)

TEMPORARY JOB TRAILER

SET MAG NAIL W/ "ATLAS 8060" SHINER

CLOTHES LINE (TYP.)

AREA INLET

PLAYGROUND EQUIPMENT

BENCH

SATELLITE DISH ON FRAME

18" SQ MTL LID

1" SQ NUT FULL SILTED

STEP CONDUIT (x3)

1" CONDUIT

3/4" CONDUIT

RSR COX

10" PIPE (FROM WALL) FL=633.42'

6" PIPE (FROM BLDG.) FL=636.06'

8" PIPE (FROM BLDG.) FL=636.24'

PVC 4" FROM CURB

MH UNKNOWN

SIGN (TYP.)

CANOPY

0 25 50

Benchmark Notes

ADS BENCHMARK # GPS 7
1/2" REBAR - 2" ALUMINUM CAP - FLUSH - STAMPED "ODOT GPS 7", SET WEST OF HWY 75, AND ON THE SOUTH SIDE OF 31ST ST.
N 413225.395, E 2556370.926, ELEV 635.514 (NAVD 1988)

ADS BENCHMARK # GPS 76
5/8" REBAR - 1 1/2" ALUMINUM CAP - FLUSH - SET IN CONCRETE - STAMPED "76", SET ON THE SOUTH SIDE OF 21ST ST, AN APPROX. 350' WEST OF S 33RD W. AVE.
N 418453.091, E 2550059.135, ELEV 639.573 (NAVD 1988)

Surveyor's Statement

FILE NO: 2466934-OK23 EFFECTIVE DATE: DECEMBER 6, 2019

TO FIRST AMERICAN TITLE INSURANCE COMPANY & HOUSING AUTHORITY OF THE CITY OF TULSA:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 7A, 8, 10 AND 11 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MAY 21, 2020.

ALBERT JONES III
AJ@ATLASLANDOFFICE.COM
PROFESSIONAL LAND SURVEYOR
OKLAHOMA NO. 1580
11-12-20

PROFESSIONAL LAND SURVEYOR ALBERT JONES III 1580 OKLAHOMA

REVISION	BY	DATE

ATLAS LAND OFFICE
202 SOUTH MAIN - WAGONER, OK 74467
918.485.9987 C.A.#8060 EXP: 6-30-2020

ALL COPIES THAT DO NOT BEAR AN ORIGINAL SIGNATURE AND SEAL IN RED MAY HAVE BEEN ALTERED. THE ABOVE SURVEYOR CANNOT BE HELD RESPONSIBLE FOR ANY UNAUTHORIZED ALTERATIONS. THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF ATLAS LAND OFFICE, INC. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF ATLAS LAND OFFICE, INC. ANY REPRODUCTION OF THESE PLANS WITHOUT CONSENT OF ATLAS LAND OFFICE, INC. ARE UNAUTHORIZED, AND SHALL RELIEVE ATLAS LAND OFFICE, INC. OF RESPONSIBILITY FOR ALL CONSEQUENCES ARRIVING OUT OF SUCH CHANGES.

PREPARED FOR: DENNIS BURNS W/ WALLACE ENGINEERING	SCALE:	1"=50'	
CHECKED BY:	ARJ	DRAFTED BY:	JMH
SURVEY BY:	ATJ	JOB NUMBER:	11627.10
SURVEY DATE:	05/21/2020	FILE NUMBER:	1912.1400
BOOK/PAGE:		DIGITAL	

BEFORE YOU DIG
CONTACT OKLAHOMA ONE-CALL:
1-800-522-8543
EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN

SHEET 1 OF 2

TOPOGRAPHIC SURVEY

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

PLAN SCALE: 1"=30'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.		11/2020
HORIZONTAL:	LEAD MGR.		11/20
	FIELD MGR.		11/20
VERTICAL:	RECOMMENDED:		11.20
	DESIGN MANAGER:		

APPROVED:
CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 17 OF 69 SHEETS

11/16/2020 4:12:00 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\17-Topo Survey.dgn

Benchmark Notes

ADS BENCHMARK # GPS 7
1/2" REBAR - 2" ALUMINUM CAP - FLUSH - STAMPED "ODOT GPS 7",
SET WEST OF HWY 75, AND ON THE SOUTH SIDE OF 31ST ST.
N 413225.395, E 2556370.926, ELEV 635.514 (NAVD 1988)

ADS BENCHMARK # GPS 76
5/8" REBAR - 1 1/2" ALUMINUM CAP - FLUSH - SET IN CONCRETE - STAMPED "76",
SET ON THE SOUTH SIDE OF 21ST ST, AN APPROX. 350' WEST OF S 33RD W. AVE.
N 418453.091, E 2550059.135, ELEV 639.573 (NAVD 1988)

Legal Description (Commitment No. 2466934-OK23)

BLOCK 1 OF 'RIVERVIEW PARK ADDITION' , A REPLAT OF BLOCK 1 AND A PLAT OF BLOCK 2-13, CITY OF TULSA,TULSA COUNTY, STATE OF OKLAHOMA, ACCORDING TO THE RECORDED PLAT NO. 3128 THEREOF, LESS AND EXCEPT A TRACT OF LAND THAT IS PART OF SAID BLOCK 1, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, THAT IS THE MOST WESTERLY NORTHWEST CORNER OF SAID BLOCK 1; THENCE N 89° 25' 04" E, ALONG THE NORTH LINE OF SAID BLOCK 1 A DISTANCE OF 215.36 FEET; THENCE S 00° 35' 01" E, ALONG SAID LINE A DISTANCE OF 19.97 FEET; THENCE N 89° 25' 04" E, ALONG SAID LINE A DISTANCE OF 210.35 FEET; THENCE S 00° 20' 32" E A DISTANCE OF 338.19 FEET TO A POINT WHICH IS THE CORNER OF THE MOST EASTERLY WEST LINE AND THE MOST NORTHERLY SOUTH LINE OF SAID BLOCK 1; THENCE S 89° 24' 57" W, ALONG THE SOUTH LINE OF SAID BLOCK 1 A DISTANCE OF 179.69 FEET; THENCE N 73° 52' 46" W, ALONG SAID LINE A DISTANCE OF 31.27 FEET; THENCE N 00° 35' 43" W, ALONG SAID LINE A DISTANCE OF 8.75 FEET; THENCE S 89° 24' 56" W, ALONG SAID LINE A DISTANCE OF 214.63 FEET TO THE MOST WESTERLY SOUTHWEST CORNER OF SAID BLOCK 1; THENCE N 00° 35' 09" W, ALONG THE WEST LINE OF SAID BLOCK 1 A DISTANCE OF 340.43 FEET, TO THE POINT OF BEGINNING.

Notes

1. THIS FIRM WAS NOT CONTRACTED TO RESEARCH EASEMENTS OR ENCUMBRANCES OF RECORD. NO ATTEMPT TO RESEARCH THE COUNTY RECORDS OR OTHER RECORD OFFICES WAS PERFORMED BY THIS FIRM, THEREFORE EASEMENTS MAY AFFECT THE SUBJECT TRACT THAT ARE NOT REFLECTED BY THIS PLAT.
2. ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN. (CALL "OKIE" BEFORE DIGGING!)
3. THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON CONTROL ON SACK AND ASSOCIATES, INC., ALTA SURVEY DATED 6/2019: THE BEARINGS USED FOR THE SURVEY ARE BASED ON THE OKLAHOMA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 1983.

Table A Notes

ITEM 3:
WE HAVE EXAMINED A MAP BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP, TULSA COUNTY, OKLAHOMA AND INCORPORATED AREAS, COMMUNITY PANEL NO. 40143C0220L - 10/16/2012, WHICH INDICATES ALL OF THE SUBJECT PROPERTY TO BE WITHIN SHADED ZONE X.

ITEM 4:
GROSS LAND AREA: 520,734.87 SF ±, OR 11.95 ACRES, MORE OR LESS.

Schedule B – Section II

5. CERTIFICATE AND DEDICATION ESTABLISHING PLAT OF RIVERVIEW PARK ADDITION, A REPLAT OF BLOCK ONE (1) AND A PLAT OF BLOCKS TWO (2) THROUGH THIRTEEN (13) IN THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER (NW/4 NE/4) OF SECTION FOURTEEN (14), TOWNSHIP NINETEEN (19) NORTH, RANGE TWELVE (12) EAST; AND A REPLAT OF (A) AMENDED WEST TULSA ADDITION, (B) FIRST REFINERY ADDITION (C), SECOND REFINERY ADDITION, (D) WESTDALE ADDITION, (E) WALDALE ADDITION AND (F) YOSEMITE ADDITION; FILED JUNE 30, 1970 AS PLAT NO. 3128; AND THE SUBSEQUENT RATIFICATION OF PLAT FILED AUGUST 23, 1976, RECORDED IN BOOK 4228, PAGE 2361. **AFFECTS THE SUBJECT TRACT AS SHOWN.**
6. ALL ITEMS AFFECTING BLOCK III OF THE RECORDED PLAT OF RIVERVIEW PARK ADDITION TO THE CITY OF TULSA, FILED JUNE 30, 1970 AS PLAT NO. 3128 ARE MADE A PART HEREOF. **DOES NOT AFFECT THE SUBJECT TRACT.**
7. COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND BUILDING SETBACK LINES CONTAINED IN THE AMENDED PLAT OF WEST TULSA RECORDED OCTOBER 1, 1906 IN BOOK 2, PAGE 639; BEING THE SUBJECT OF THE AFFIDAVIT RECORDED OCTOBER 23, 2018 AS DOCUMENT NO. 2018095558. **DOES NOT AFFECT THE SUBJECT TRACT TO THE EXTENT THAT THE PLAT IS VACATED BY OKLAHOMA STATUTE TITLE 11 SEC. 42-106C (11 O.S. 42-106).**
8. COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND BUILDING SETBACK LINES CONTAINED IN THE PLAT OF FIRST REFINERY ADDITION TO TULSA, RECORDED MARCH 20, 1920 AS INSTRUMENT NO. 151190. **DOES NOT AFFECT THE SUBJECT TRACT TO THE EXTENT THAT THE PLAT IS VACATED BY OKLAHOMA STATUTE TITLE 11 SEC. 42-106C (11 O.S. 42-106).**
9. COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND BUILDING SETBACK LINES CONTAINED IN THE PLAT OF SECOND REFINERY ADDITION TO TULSA, RECORDED SEPTEMBER 15, 1921 AS PLAT NO. 530 AND INSTRUMENT NO. 185103. **DOES NOT AFFECT THE SUBJECT TRACT TO THE EXTENT THAT THE PLAT IS VACATED BY OKLAHOMA STATUTE TITLE 11 SEC. 42-106C (11 O.S. 42-106).**
10. COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND BUILDING SETBACK LINES CONTAINED IN THE PLAT OF WALDALE ADDITION TO TULSA, RECORDED MARCH 29, 1922 AS INSTRUMENT NO. 196832. **DOES NOT AFFECT THE SUBJECT TRACT TO THE EXTENT THAT THE PLAT IS VACATED BY OKLAHOMA STATUTE TITLE 11 SEC. 42-106C (11 O.S. 42-106).**
11. COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND BUILDING SETBACK LINES CONTAINED IN THE PLAT OF RIVERVIEW PARK ADDITION - BLOCK 1 TO TULSA, RECORDED APRIL 29, 1969 AS INSTRUMENT NO. 18172, AND AS PLAT NO. 3019. **AFFECTS THE SUBJECT TRACT AS SHOWN.**
12. SEWER EASEMENT IN FAVOR OF THE CITY OF TULSA RECORDED IN BOOK 495, PAGE 308. **DOES NOT AFFECT THE SUBJECT TRACT.**
13. SEWER CONTRACT FOR USE OF SEWER DISTRICT NO. 180 GRANTED BY THE CITY OF TULSA, RECORDED IN BOOK 935, PAGE 363. **DOES NOT AFFECT THE SUBJECT TRACT.**
14. DEDICATION DEED FOR HIGHWAY PURPOSES IN FAVOR OF THE PUBLIC, RECORDED IN BOOK 1405, PAGE 584. **AFFECTS THE SUBJECT TRACT AS SHOWN.**
15. EASEMENT IN FAVOR OF PUBLIC SERVICE COMPANY OF OKLAHOMA RECORDED IN BOOK 1821, PAGE 594. **DOES NOT AFFECT THE SUBJECT TRACT.**
16. RIGHT-OF-WAY IN FAVOR OF OKLAHOMA NATURAL GAS COMPANY RECORDED IN BOOK 1940, PAGE 512; AS AMENDED BY THE PARTIAL RELEASE OF RIGHT-OF-WAY RECORDED IN BOOK 3815, PAGE 1492. **DOES NOT AFFECT THE SUBJECT TRACT.**
17. RESTRICTIONS AND COVENANTS RUNNING WITH THE LAND ESTABLISHED VIA SPECIAL WARRANTY DEED FROM THE TULSA URBAN RENEWAL AUTHORITY, A PUBLIC BODY CORPORATE AS GRANTOR, IN FAVOR OF WESTBANK ASSOCIATES, A JOINT VENTURE AS GRANTEE, RECORDED IN BOOK 3888, PAGE 47; AS SUPERSEDED VIA GENERAL WARRANTY DEED RECORDED IN BOOK 3915, PAGE 1641. **AFFECTS THE SUBJECT TRACT AS STATED.**
18. RELEASE OF CERTAIN BLANKET EASEMENTS BY THE CITY OF TULSA VIA ORDINANCE NO. 11669 RECORDED IN BOOK 3915, PAGE 1376; AND THE SUBSEQUENT RELEASE AND RELINQUISHMENT OF VARIOUS PUBLIC WAYS GRANTED FROM THE CITY OF TULSA TO THE TULSA URBAN RENEWAL AUTHORITY, RECORDED IN BOOK 3915, PAGE 1387. **AFFECTS THE SUBJECT TRACT AS SHOWN.**
19. RESTRICTIONS AND COVENANTS RUNNING WITH THE LAND ESTABLISHED VIA GENERAL WARRANTY DEED FROM WEST BANK ASSOCIATES, A JOINT VENTURE AS GRANTOR, IN FAVOR OF HOUSING AUTHORITY OF THE CITY OF TULSA, A PUBLIC BODY RECORDED FEBRUARY 10, 1970 IN BOOK 3915, PAGE 1644; AS AMENDED VIA CORRECTION GENERAL WARRANTY DEED RECORDED FEBRUARY 13, 1970 IN BOOK 3916, PAGE 1649. **AFFECTS THE SUBJECT TRACT AS STATED.**
20. EASEMENT IN FAVOR OF PUBLIC SERVICE COMPANY OF OKLAHOMA RECORDED IN BOOK 3921, PAGE 1656. **AFFECTS THE SUBJECT TRACT; UNABLE TO DETERMINE EXACT LOCATION.**
21. MATTERS SET FORTH IN THE DECLARATION OF TRUST ENTERED BETWEEN THE HOUSING AUTHORITY OF THE CITY OF TULSA, OKLAHOMA AND THE UNITED STATES OF AMERICA RECORDED IN BOOK 3922, PAGE 381; AND THE SUBSEQUENT DECLARATION OF TRUST ENTERED BETWEEN THE TULSA HOUSING AUTHORITY AND THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT RECORDED IN BOOK 5585, PAGE 1695. **AFFECTS THE SUBJECT TRACT AS STATED.**
22. RELEASE OF CERTAIN BLANKET EASEMENTS BY THE CITY OF TULSA VIA ORDINANCE NO. 11970 RECORDED IN BOOK 3945, PAGE 1549; AND THE SUBSEQUENT RELEASE AND RELINQUISHMENT OF BLANKET EASEMENTS BY THE CITY OF TULSA IN FAVOR OF THE TULSA URBAN RENEWAL AUTHORITY RECORDED IN BOOK 3945, PAGE 1552. **DOES NOT AFFECT THE SUBJECT TRACT.**
23. RELEASE OF CERTAIN BLANKET EASEMENTS BY THE CITY OF TULSA VIA ORDINANCE NO. 11971 RECORDED IN BOOK 3945, PAGE 1554; AND THE SUBSEQUENT RELEASE AND RELINQUISHMENT OF BLANKET EASEMENTS BY THE CITY OF TULSA IN FAVOR OF THE TULSA URBAN RENEWAL AUTHORITY RECORDED IN BOOK 3945, PAGE 1562. **DOES NOT AFFECT THE SUBJECT TRACT.**
24. NOTICE OF ADOPTION OF URBAN RENEWAL PLAN BY THE TULSA URBAN RENEWAL AUTHORITY, A PUBLIC BODY CORPORATE RECORDED IN BOOK 3983, PAGE 1240. **AFFECTS THE SUBJECT TRACT.**
25. RIGHT-OF-WAY IN FAVOR OF PUBLIC SERVICE COMPANY OF OKLAHOMA, RECORDED IN BOOK 4223, PAGE 1265. **AFFECTS THE SUBJECT TRACT—DRAWING UNREADABLE.**
26. RIGHT-OF-WAY IN FAVOR OF OKLAHOMA NATURAL GAS COMPANY, RECORDED IN BOOK 4834, PAGE 297. **AFFECTS THE SUBJECT TRACT; UNABLE TO DETERMINE EXACT LOCATION.**
27. CABLE TELEVISION EASEMENT AND MAINTENANCE AGREEMENT ENTERED BETWEEN THE TULSA HOUSING AUTHORITY AND TULSA CABLE TELEVISION, INC., RECORDED IN BOOK 5727, PAGE 1241. **AFFECTS VIA BLANKET.**
28. CONVEYANCE IN FAVOR OF THE CITY OF TULSA RECORDED AS DOCUMENT NO. 2006104184. **DOES NOT AFFECT THE SUBJECT TRACT.**
29. GRANT OF EASEMENT AND MEMORANDUM OF AGREEMENT IN FAVOR OF COXCOM, INC., A DELAWARE CORPORATION D/B/A COX COMMUNICATIONS TULSA RECORDED AS DOCUMENT NO. 2009123269. **AFFECTS VIA BLANKET.**

TOPOGRAPHIC SURVEY

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
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123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=30'-0"
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.	[illegible]	11/2020
LEAD MGR.	[illegible]	11/20
FIELD MGR.	[illegible]	11/20
RECOMMENDED: DESIGN MANAGER	[illegible]	11-20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 18 OF 69 SHEETS

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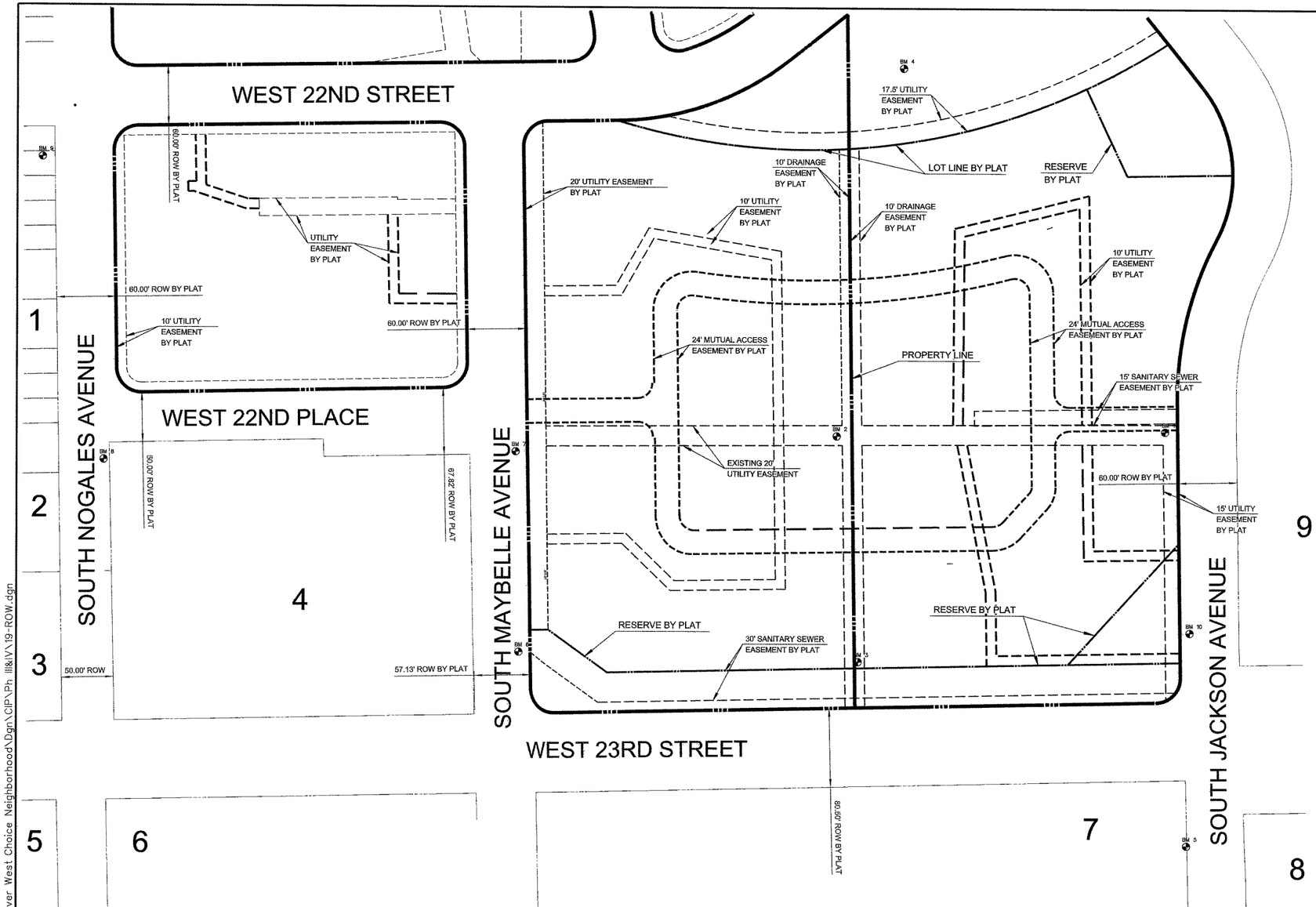

1. WEST TULSA ADDITION BLOCK 38, LOTS 1-11, NORTH 20' LOT 12 & LOTS 25-48
   OWNER: INDEPENDENT SCHOOL DISTRICT NO. 1
2. WEST TULSA ADDITION BLOCK 38, SOUTH 5' LOT 12 & LOTS 13-18
   OWNER: AFFORDABLE HOUSING POPERTY SOLUTIONS, INC.
3. WEST TULSA ADDITION BLOCK 38, LOTS 19-24
   OWNER: TCF REAL ESTATE LLC
4. WEST TULSA ADDITION BLOCK 40, LOTS 1-18 AND FIRST REFINERY ADDITION BLOCK 4, LOTS 1-6
   OWNER: 909 WEST 23RD STREET LLC
5. WEST TULSA ADDITION BLOCK 43, SOUTH 5' LOT 1 & LOTS 2-6
   OWNER: KENNETH R AND M CLAIRE TRINIDAD
6. WEST TULSA ADDITION BLOCK 41. SOUTH 110' LOTS 3-9
   OWNER: BURGER BARON, INC.
7. PART OF RIVERVIEW PARK ADDITION BLOCK X, BEGINNING AT THE NORTHEAST CORNER OF BLOCK X, THENCE SOUTH 200', THENCE WEST 129.47'. THENCE NORTH 200.06' THENCE EAST 129.71' TO THE POINT OF BEGINNING
   OWNER: JAWAD R & DURDANA RAFIQ AWAN
8. UNPLATTED
   OWNER: CITY OF TULSA
9. UNPLATTED
   OWNER: MICHAEL D. LANDA

60 0 30 60
1"=60' FULL SIZE
1"=120' HALF SIZE

BENCHMARK 1
CHISELED SQUARE
N: 417667.574
E: 2559185.253
ELEV: 631.551
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

BENCHMARK 2
CHISELED SQUARE
N: 417662.539
E: 2558852.597
ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 3
CHISELED SQUARE
N: 417434.527
E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

BENCHMARK 4
CHISELED SQUARE
N: 418034.225
E: 2558919.468
ELEV: 632.162
(LOCATED ON THE SOUTH CURB OF THE NORTH PARKING LOT)

BENCHMARK 5
CHISELED SQUARE
N: 417249.121
E: 2559207.250
ELEV: 636.393
(LOCATED ON THE SOUTH CURB OF THE FIRST DRIVEWAY ON THE WEST SIDE OF S JACKSON AVE SOUTH OF W 23RD ST)

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E: 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)

BENCHMARK 10
SSMH LID
N: 417464.378
E: 2559210.585
ELEV: 635.450
(LOCATED ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

ADS BENCHMARK # GPS 7

1/2" REBAR - 2" ALUMINUM CAP - FLUSH - STAMPED "ODOT GPS 7", SET WEST OF HWY 75, AND ON THE SOUTH SIDE OF 31ST ST.
N 413225.395, E 2556370.926, ELEV 635.514 (NAVD 1988)

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5/8" REBAR - 1 1/2" ALUMINUM CAP - FLUSH - SET IN CONCRETE - STAMPED "76", SET ON THE SOUTH SIDE OF 21ST ST. APPROX. 350' WEST OF S 33RD W. AVE.
N 418453.091, E 2550059.135, ELEV 639.573 (NAVD 1988)

BEFORE YOU DIG OKIE 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020
OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

RIGHT OF WAY AND SURVEY DATA

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
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PLAN SCALE: 1"=50'-0"	DRAWN	MDE	11/20/20	APPROVED:
	DESIGNED	JR	11/20/20	
	SURVEY	ARJ	11/20/20	
PROFILE SCALE:	PROJ MGR.	[illegible]	11/2020	
HORIZONTAL: N.A.	LEAD MGR.	BDC	11/20	
VERTICAL: N.A.	FIELD MGR.	[illegible]	11/20	
	RECOMMENDED: DESIGN MANAGER		11.20	CITY ENGINEER
FILE:	DRAWING:			DATE: 11/20/2020
ATLAS PAGE NO.: 35				SHEET 19 OF 69 SHEETS

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STORMWATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: W 22nd Pl from S Nogales Av to S Maybelle Avenue, S Maybelle Av from W 22nd Pl to W 23rd St, S Nogales from W 22nd St to W 23rd St

PROJECT DESCRIPTION: Demolition and reconstruction of public street; Storm drain, water and sanitary sewer extensions.

SUGGESTED SEQUENCE OF EROSION CONTROL CHANNELS: Place temporary sediment control devices as shown on erosion control plans, where runoff may leave the work site prior to starting demolition

SOIL TYPE: SANDY SILT, SILTY SAND

AREA TO BE DISTURBED: 1.4 ACRES

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: 1 (FOR CONTRACTOR USE)

LATITUDE AND LONGITUDE OF CENTER OF PROJECT: 36°07'50" N, 96°00'07" W

NAME OF RECEIVING WATERS: Arkansas River via City storm drains

SENSITIVE WATERS OR WATERSHEDS: YES [ ] NO [X]

303(d) IMPAIRED WATERS: YES [X] NO [ ]

NOTE: THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- [X] TEMPORARY SEEDING
- [X] PERMANENT SODDING, SPRIGGING OR SEEDING
- [ ] VEGETATIVE MULCHING
- [ ] SOIL RETENTION BLANKET
- [ ] PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- [X] STABILIZED CONSTRUCTION ENTRANCE
- [X] TEMPORARY SILT FENCE
- [ ] TEMPORARY SILT DIKES
- [ ] TEMPORARY FIBER LOG
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- [ ] ROCK FILTER DAMS
- [ ] TEMPORARY SLOPE DRAIN
- [ ] PAVED DITCH W/ DITCH LINER PROTECTION
- [ ] TEMPORARY DIVERSION CHANNELS
- [ ] TEMPORARY SEDIMENT BASINS
- [ ] TEMPORARY SEDIMENT TRAPS
- [ ] TEMPORARY SEDIMENT FILTERS
- [X] TEMPORARY SEDIMENT REMOVAL
- [ ] RIP RAP
- [X] INLET SEDIMENT FILTER
- [ ] TEMPORARY BRUSH SEDIMENT FILTERS
- [ ] SANDBAG BERMS
- [ ] TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- [ ] HAUL ROADS DAMPENED FOR DUST CONTROL
- [X] LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- [X] EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:
ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 IN AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:
A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORMS THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, IE, BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC.THE BASIC GOAL OF STORMWATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORMWATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

- 103.05 BONDING REQUIREMENTS
- 104.10 FINAL CLEANING UP
- 104.12 CONTRACTOR'S RESPONSIBILITY FOR WORK
- 104.13 ENVIRONMENTAL PROTECTION
- 106.08 STORAGE AND HANDLING OF MATERIALS
- 107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
- 107.15 STORMWATER MANAGEMENT
- 220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORMWATER POLLUTION PREVENTION AND CONTROL
- 221 TEMPORARY SEDIMENT CONTROL

IN ADDITION:
"ODEQ GENERAL PERMIT (OKR10) FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, OCTOBER 18, 2017.

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020
OKLAHOMA CA #1460 EXP DATE 6/30/21

REVISION	BY	DATE

STORMWATER MANAGEMENT PLAN

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

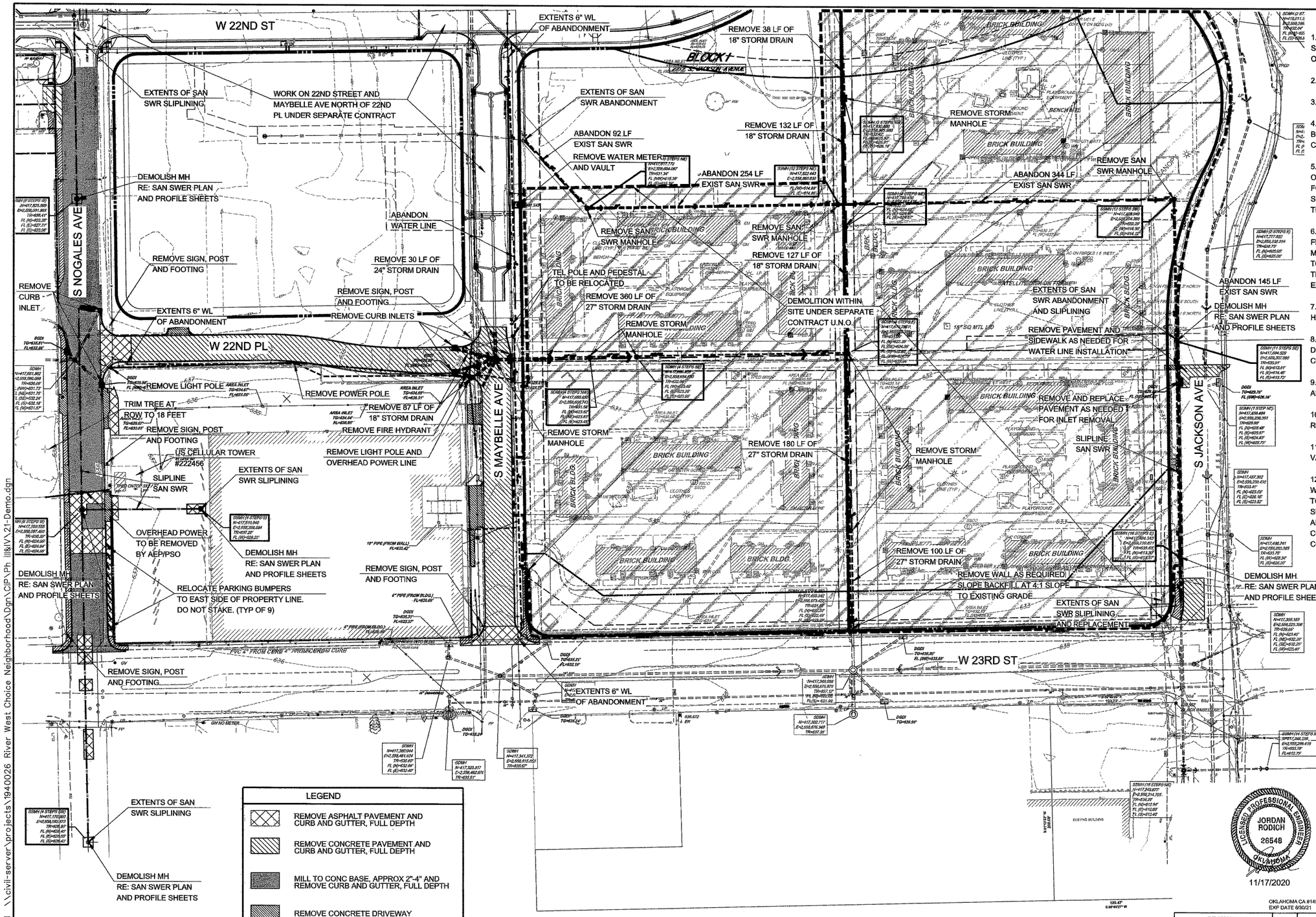
PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

PLAN SCALE: N/A	DRAWN	MDE	11/20/20	APPROVED:
	DESIGNED	JR	11/20/20	
	SURVEY	ARJ	11/20/20	
PROFILE SCALE:	PROJ MGR.			
HORIZONTAL: N/A	LEAD MGR.	BDC	11/20	
VERTICAL: N/A	FIELD MGR.		11/20	
	RECOMMENDED: DESIGN MANAGER		11-20	CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 20 OF 69 SHEETS

11/16/2020 4:16:24 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\20-SWMP.dgn



1. ALL CONCRETE AND ASPHALT NOTED FOR REMOVAL SHALL BE SAW CUT FULL DEPTH AND REMOVED OFF SITE UNLESS NOTED OTHERWISE.

2. CONTRACTOR SHALL PROTECT ALL SURVEY CONTROL POINTS.

3. CONTRACTOR SHALL REMOVE ALL WASTE MATERIALS OFF SITE.

4. ALL EXISTING STRUCTURES, FENCING, TREES, ETC., NOTED TO BE REMOVED SHALL BE REMOVED & DISPOSED OF OFF SITE. ALL COST SHALL BE INCLUDED IN BASE BID.

5. WITH PRIOR APPROVAL, CONTRACTOR MAY ESTABLISH AN ON-SITE STAGING AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING STAGING AREA TO ITS ORIGINAL CONDITION. SECURITY OF STAGING AREA SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

6. CONTRACTOR SHALL PROTECT ALL ABOVE GROUND UTILITY FEATURES NOT BEING REMOVED INCLUDING, BUT NOT LIMITED TO, MANHOLES, VALVES, AND INLETS. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE THE EXISTING STRUCTURE AS NECESSARY.

7. PRIOR TO UTILITY DEMOLITION COORDINATE WITH AUTHORITY HAVING JURISDICTION.

8. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL DURING CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LANE CLOSURES, DETOURS, ETC. BOTH VEHICULAR AND PEDESTRIAN.

9. UTILITIES BEING REMOVED OR RELOCATED SHALL BE ISOLATED AND SERVICE DISCONNECTED PRIOR TO ANY DEMOLITION.

10. CONTRACTOR SHALL PROVIDE TEMPORARY UTILITY SERVICE IF REQUIRED.

11. ALL EXISTING FIRE HYDRANTS, WATER METERS AND WATER VALVES TO REMAIN, UNLESS NOTED OTHERWISE.

12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH RIVER WEST CHOICE NEIGHBORHOOD HOUSING PROJECTS TO ENSURE THE SIX (6) FOOT CHAINLINK CONSTRUCTION FENCE SURROUNDING THE HOUSING PROJECTS REMAINS MAINTAINED AND SECURED. THE FENCING AND ANY RELOCATION DURING THE CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE HOUSING CONTRACTOR.

N

50 0 25 50

1"=50' FULL SIZE
1"=100' HALF SIZE

DEMOLITION PLAN

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

LICENSED PROFESSIONAL ENGINEER — JORDAN RODICH — 26548 — OKLAHOMA

11/17/2020

OKLAHOMA CA #1480
EXP DATE 6/30/21

REVISION	BY	DATE

PLAN SCALE: 1"=50'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE: HORIZONTAL: N.A. VERTICAL: N.A.	PROJ MGR.		11/20/2020
	LEAD MGR.	BDC	11/20
	FIELD MGR.	Jrw	11/20
	RECOMMENDED DESIGN MANAGER	AJS	11.20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 21 OF 69 SHEETS

BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

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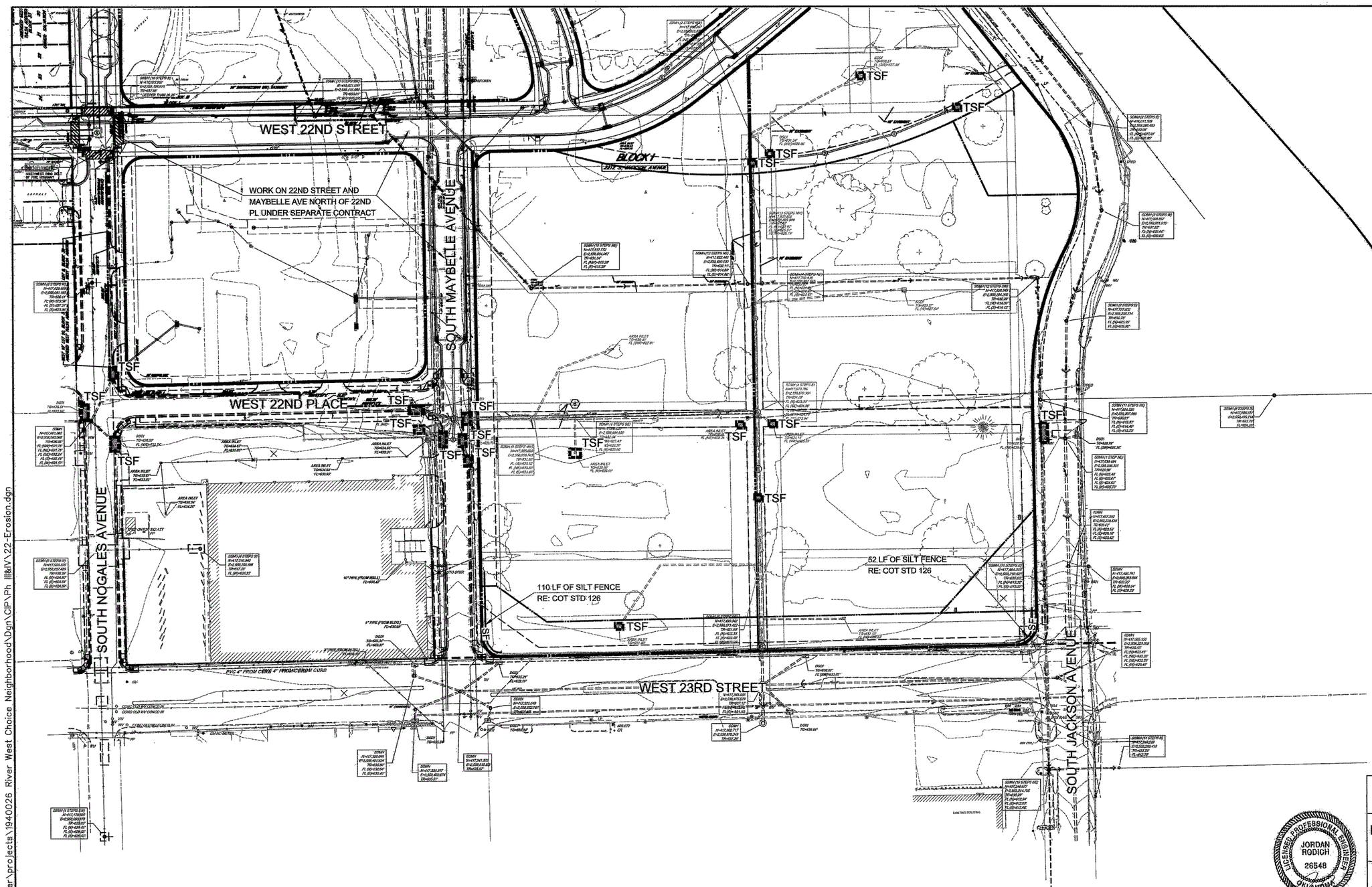

GENERAL EROSION NOTES

1. ON-SITE VEGETATION SHALL BE PROTECTED AS NOTED. IN DESIGNATED PROTECTION AREAS WHERE THE CONTRACTOR DOES NOT PROTECT VEGETATION AS NOTED, CONTRACTOR SHALL RESTORE VEGETATION TO EXISTING CONDITION AT NO ADDITIONAL EXPENSE TO THE OWNER, TO THE SATISFACTION OF THE ARCHITECT.

2. TOPSOIL STOCKPILES AND DISTURBED PORTIONS OF THE SITE, WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 14 DAYS SHALL BE STABILIZED IMMEDIATELY WITH TEMPORARY SEED AND MULCH PER SPECIFICATIONS ON THE GENERAL NOTES AND STORMWATER POLLUTION PREVENTION PLAN.

3. CONTRACTOR SHALL ENSURE CONSTRUCTION SITE HAS POSITIVE DRAINAGE THROUGHOUT THE DURATION OF CONSTRUCTION. CONTTRACTOR SHALL PROVIDE PUMPING SYSTEM TO NEAREST INLET IF NECESSARY.

LEGEND

TSF	TEMPORARY SEDIMENT FILTER RE: ODOT STD TSC2-3
— SF —	SILT FENCE RE: COT STD 126

BEFORE YOU DIG CALL OKIE 1-800-522-OKIE

CAUTION

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LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

EROSION CONTROL PLAN

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=40'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.	BD	11/2020
HORIZONTAL: N.A.	LEAD MGR.	BDC	11/20
	FIELD MGR.	ZEM	11/20
VERTICAL: N.A.	RECOMMENDED: DESIGN MANAGER	HAS	11.20
FILE:	DRAWING:		
ATLAS PAGE NO.: 35			

APPROVED:
CITY ENGINEER
DATE: 11/20/2020
SHEET 22 OF 69 SHEETS

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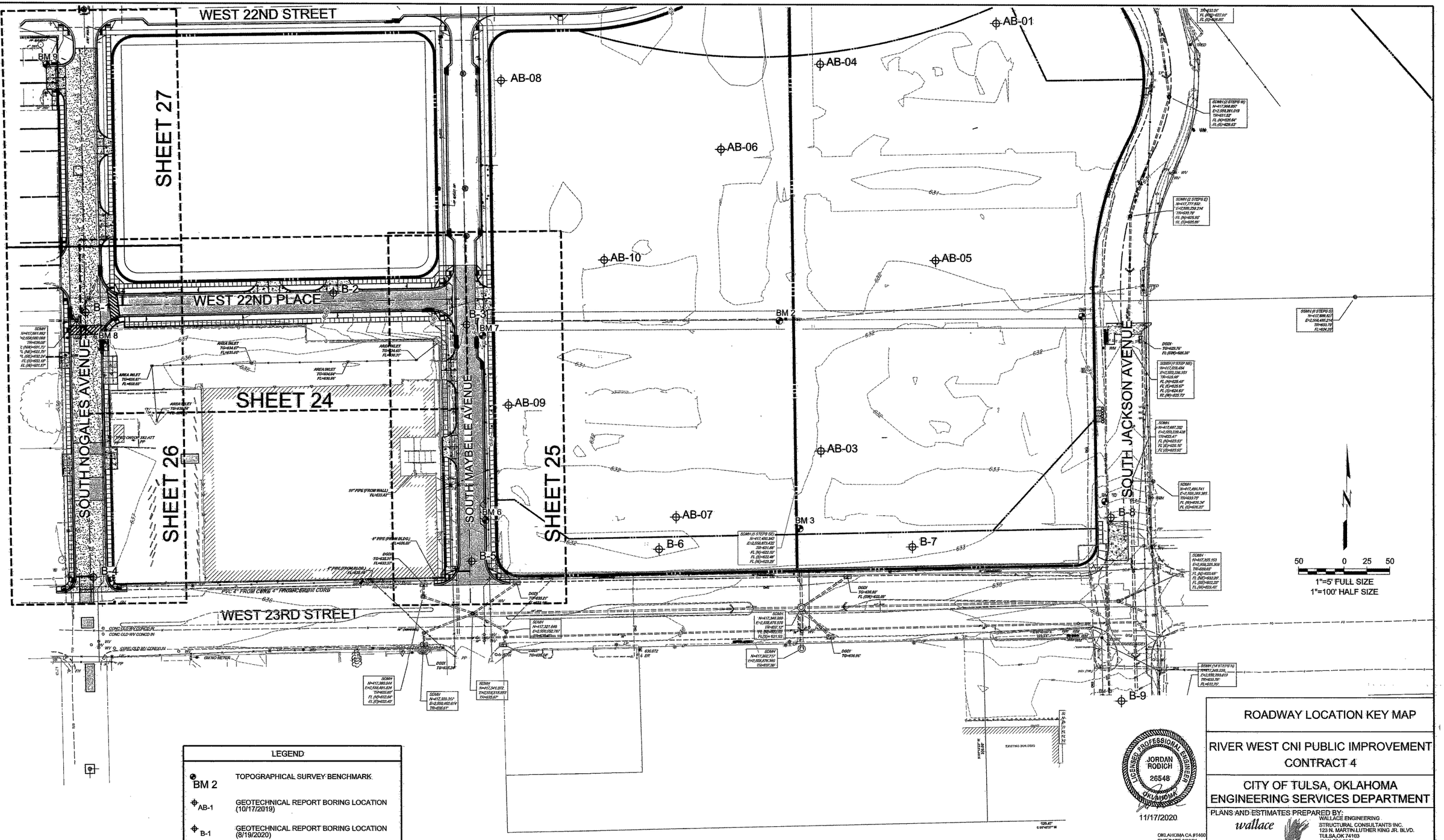

LEGEND	
BM 2	TOPOGRAPHICAL SURVEY BENCHMARK
AB-1	GEOTECHNICAL REPORT BORING LOCATION (10/17/2019)
B-1	GEOTECHNICAL REPORT BORING LOCATION (8/19/2020)
	ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	ASPHALT OVERLAY

SHEET NO.	ROADWAY NAME	ROADWAY STATION RANGE
24	WEST 22ND PLACE SOUTH	80+00 TO 84+19.03
25	SOUTH MAYBELLE AVENUE	56+92.24 TO 60+42.45
26	SOUTH NOGALES AVENUE	90+21.45 TO 94+00
27	SOUTH NOGALES AVENUE	94+00 TO 95+97.55

BEFORE YOU DIG CALL OKIE 1-800-522-OKIE

CAUTION

NOTICE TO CONTRACTOR

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LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

ROADWAY LOCATION KEY MAP

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

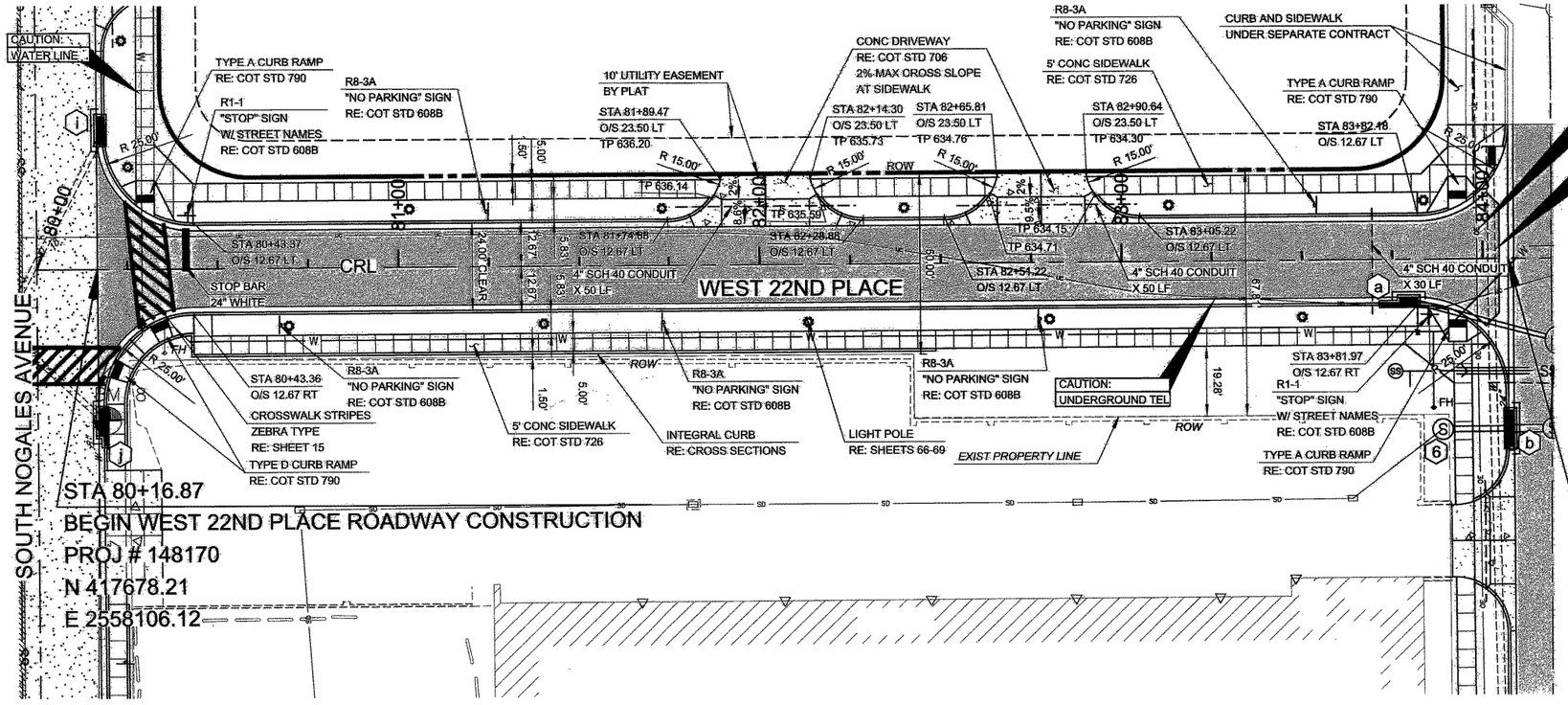
PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=40'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.		11/20/20
HORIZONTAL: N.A.	LEAD MGR:	BOC	11/20
	FIELD MGR:		11/20
VERTICAL: N.A.	RECOMMENDED: DESIGN MANAGER	HAS	11-20
FILE:	DRAWING:		
ATLAS PAGE NO.: 35			

APPROVED:
CITY ENGINEER
DATE: 11/20/2020
SHEET 23 OF 69 SHEETS

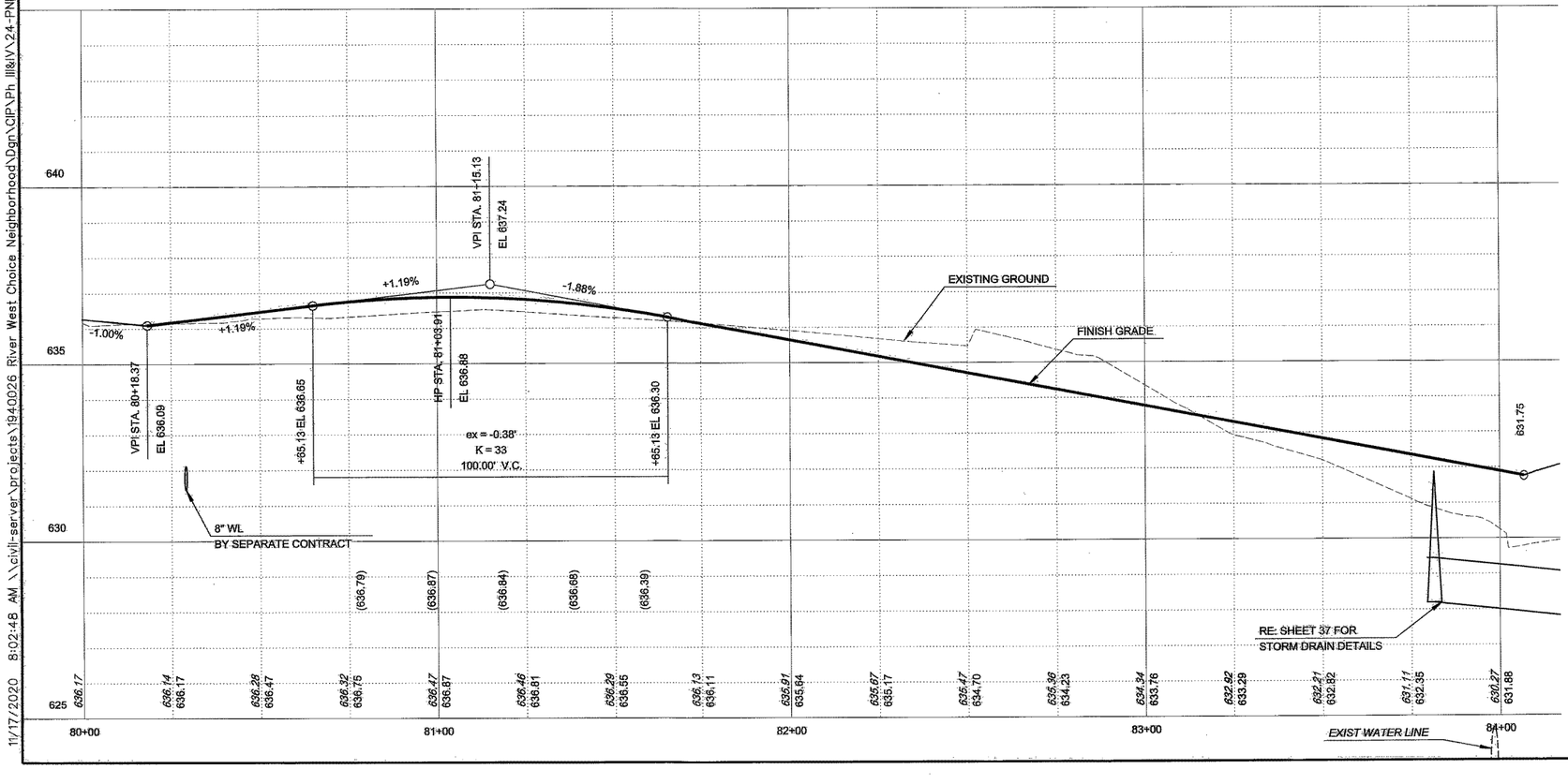
11/17/2020 12:05:00 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\23-Roadway Location Key Map.dgn



LEGEND
ASPHALT PAVEMENT
CONCRETE PAVEMENT
ASPHALT OVERLAY

NOTE:
FOR TYPICAL SECTIONS, RE: SHT 14-15
FOR GEOMETRICS, RE: SHT 16
FOR INTERSECTIONS, RE: SHT 28-29
FOR STORM SEWER DATA, RE: SHTS 36-39
FOR SANITARY SEWER DATA, RE: SHTS 43-51
FOR WATER LINE DATA, RE: 53-55
FOR LANDSCAPE & IRRIGATION, RE: SHTS 63-65
FOR STREET LIGHTING, RE: SHTS 66-69

BENCHMARK 7	BENCHMARK 8
CHISELED SQUARE	CHISELED SQUARE
N: 417646.066	N: 417636.686
E: 2558526.818	E: 2558109.458
ELEV: 630.406	ELEV: 636.239
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)	(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)



20 0 10 20
1"=20' FULL SIZE
1"=40' HALF SIZE

CAUTION
NOTICE TO CONTRACTOR

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BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020
OKLAHOMA CA #1460 EXP DATE 6/30/21

WEST 22ND PLACE
STA 80+18.37 TO STA 84+19.03

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.		
HORIZONTAL:	LEAD MGR.		
1"=20'-0"	FIELD MGR.		
VERTICAL:	RECOMMENDED:		
1"=2'-0"	DESIGN MANAGER		

APPROVED:
CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 24 OF 69 SHEETS

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STA 56+92.42
BEGIN SOUTH MAYBELLE AVENUE ROADWAY CONSTRUCTION
PROJ # 148170
N 417372.98
E 2558513.13

WEST 23RD STREET
WEST 22ND PLACE
SOUTH MAYBELLE AVE
CRL
ROW
INDBLDG
EXIST PROPERTY LINE
FUTURE WALL BY OTHERS
CONC DRIVEWAY
RE: COT STD 706
2% MAX CROSS SLOPE
AT SIDEWALK
STA 58+54.81
O/S 26.46 LT
TP 633.04
STA 58+32.85
O/S 26.34 LT
TP 633.26
STA 59+17.78
O/S 26.80 LT
TP 632.42
STA 59+37.66
O/S 26.91 LT
TP 632.28
STA 59+68.45
O/S 12.67 LT
TP 632.18
VALLEY GUTTER
RE: SHEET 13
CAUTION:
WATER LINE
CAUTION:
OVERHEAD POWER
TYPE A CURB RAMP
RE: COT STD 790
(TYP)
STA 60+42.45
O/S 12.67 LT
STA 60+32.70
O/S 12.00 RT
ROADWAY, SIDEALK AND
STORM DRAIN NORTH OF
22ND PL UNDER SEPARATE
CONTRACT
R1-1
"STOP" SIGN
W/ STREET NAMES
RE: COT STD 608B
5' CONC SIDEWALK
RE: COT STD 726
R8-3A
"NO PARKING" SIGN
RE: COT STD 608B
AUTO SPKR
STA 57+18.43
O/S 12.67 LT
STA 57+19.10
O/S 18.67 RT
STA 58+17.90
O/S 12.67 LT
STA 58+69.80
O/S 12.67 LT
STA 59+02.78
O/S 12.67 LT
STA 59+52.66
O/S 12.67 LT
STA 59+78.61
O/S 12.67 RT
STA 59+41.96
O/S 12.67 RT
TP 632.34
TP 632.63
STOP BAR
24" WIDE
TYPE A CURB RAMP
RE: COT STD 790
(TYP)
CAUTION:
OVERHEAD POWER
STA 57+85.89
O/S 18.00 RT
STA 57+53.89
O/S 18.00 RT
6" WHITE STRIPE
@ 45° @ 5' O.C.
20' UTILITY EASEMENT
BY PLAT
LIGHT POLE
RE: SHEETS 66-69
CAUTION:
OVERHEAD TELEPHONE
STA 59+35.96
O/S 18.67 RT
CONC DRIVEWAY
RE: COT STD 706
2% MAX CROSS SLOPE
AT SIDEWALK
STA 59+93.61
O/S 30.00 RT
TP 632.47
STA 60+17.61
O/S 30.00 RT
TP 632.76
CAUTION:
UNDERGROUND TELEPHONE
EXIST 20' U/E

LEGEND	
	ASPHALT PAVEMENT
	CONCRETE PAVEMENT

NOTE:
FOR TYPICAL SECTIONS, RE: SHT 14-15
FOR GEOMETRICS, RE: SHT 16
FOR INTERSECTIONS, RE: SHT 28-29
FOR STORM SEWER DATA, RE: SHTS 36-39
FOR SANITARY SEWER DATA, RE: SHTS 43-51
FOR WATER LINE DATA, RE: 53-55
FOR LANDSCAPE & IRRIGATION, RE: SHTS 63-65
FOR STREET LIGHTING, RE: SHTS 66-69

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

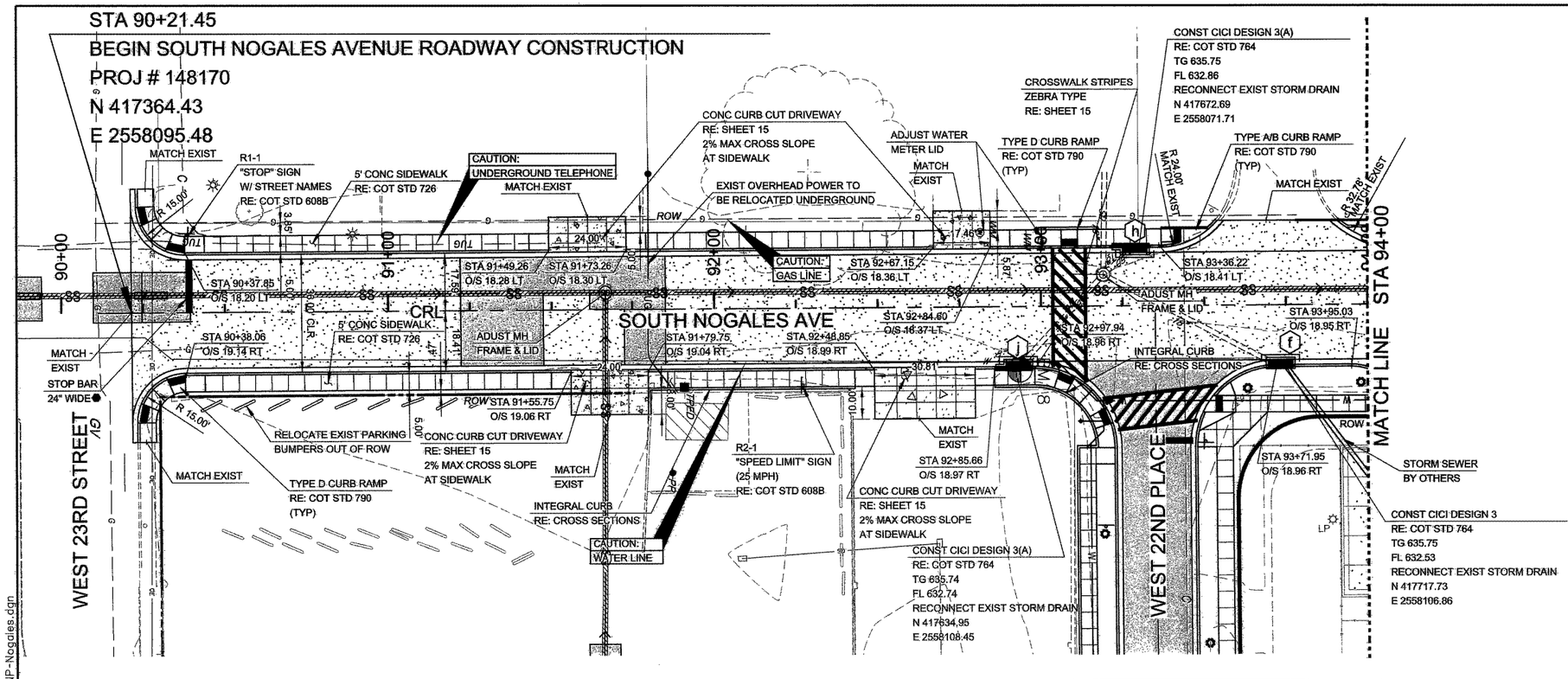
BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

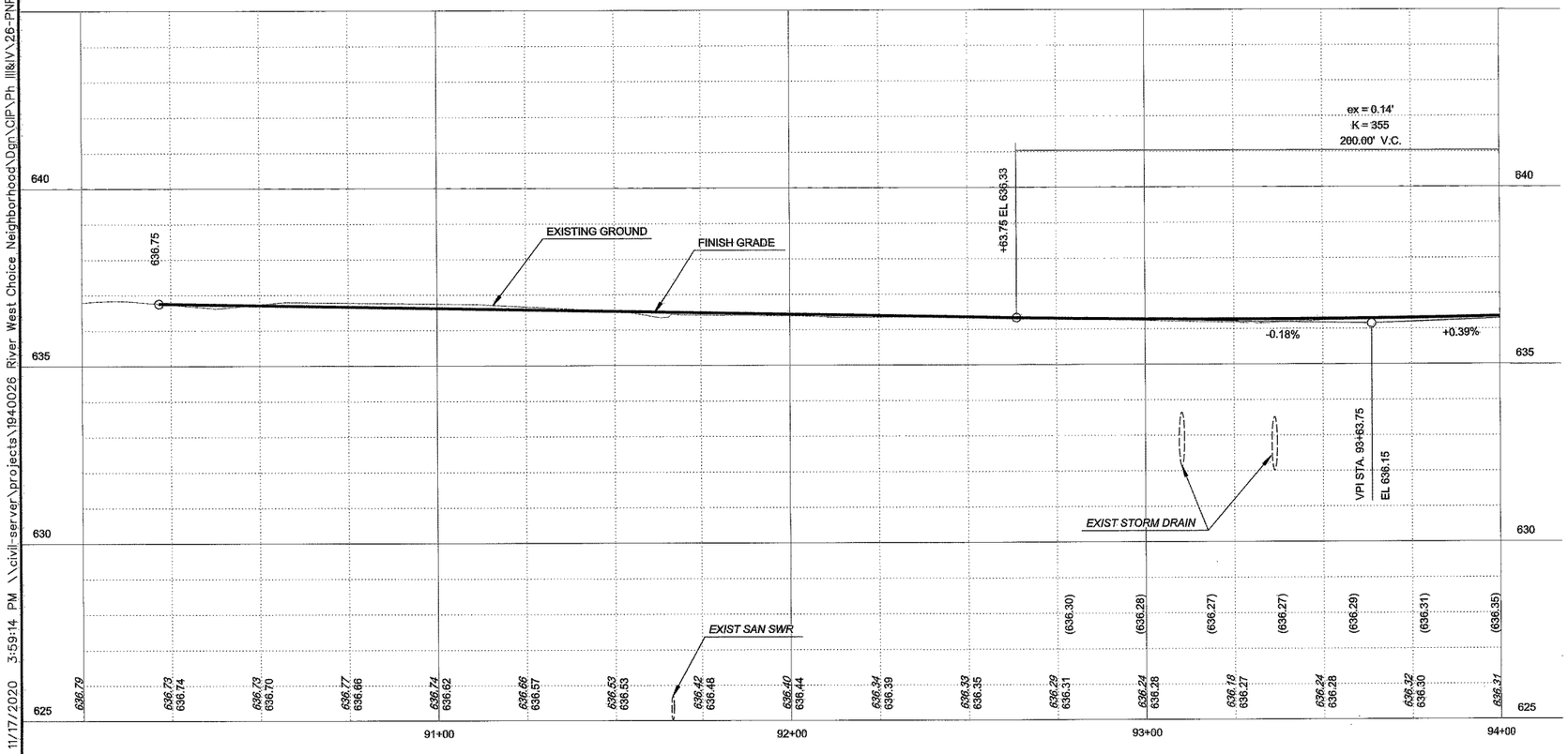
STA 60+42.45
END SOUTH MAYBELLE AVENUE ROADWAY CONSTRUCTION
PROJ # 148170
N 417722.97
E 2558507.74

ex = 0.06'
K = 50
50.00' V.C.
ex = 0.30'
K = 41
100.00' V.C.
+03.21 EL 633.91
+03.21 EL 633.46
+14.79 EL 632.03
+14.79 EL 632.23
635.12
632.62
EXISTING GROUND
FINISH GRADE
-2.00%
-1.01%
+1.41%
VPI STA. 57+78.21
EL 633.41
VPI STA. 59+64.79
EL 631.53
(633.78)
(633.44)
(633.19)
(631.98)
(631.85)
(631.82)
(631.89)
(632.05)
RE: SHEET 37 FOR
STORM DRAIN DETAILS
EXIST STORM DRAIN
CONNECT TO EXIST
STORM DRAIN
8" WL
8" SAN SWR
ROADWAY, SIDEALK AND
STORM DRAIN NORTH OF
22ND PL UNDER SEPARATE
CONTRACT

| | | |

STA 90+21.45
BEGIN SOUTH NOGALES AVENUE ROADWAY CONSTRUCTION
PROJ # 148170
N 417364.43
E 2558095.48





LEGEND	
	ASPHALT MILL AND OVERLAY
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	TYPE I APC PATCH - NON-ARTERIAL RE: COT STD 725

NOTE:
FOR TYPICAL SECTIONS, RE: SHT 14-15
FOR GEOMETRICS, RE: SHT 16
FOR INTERSECTIONS, RE: SHT 28-29
FOR STORM SEWER DATA, RE: SHTS 36-39
FOR SANITARY SEWER DATA, RE: SHTS 43-51
FOR WATER LINE DATA, RE: 53-55
FOR LANDSCAPE & IRRIGATION, RE: SHTS 63-65
FOR STREET LIGHTING, RE: SHTS 66-69

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)

20 0 10 20
1"=20' FULL SIZE
1"=40' HALF SIZE

CAUTION
NOTICE TO CONTRACTOR

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BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

SOUTH NOGALES AVE
STA 90+21.45 TO STA 94+00.00

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=2'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		
LEAD MGR.		
FIELD MGR.		
RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 26 OF 69 SHEETS

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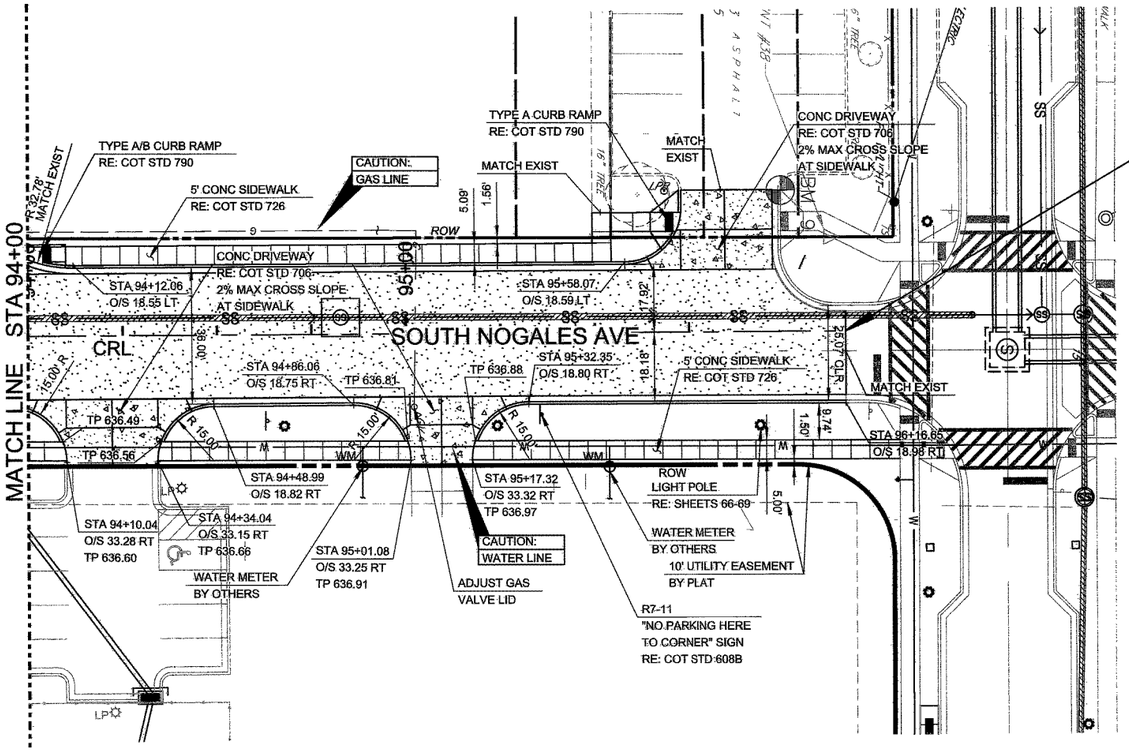


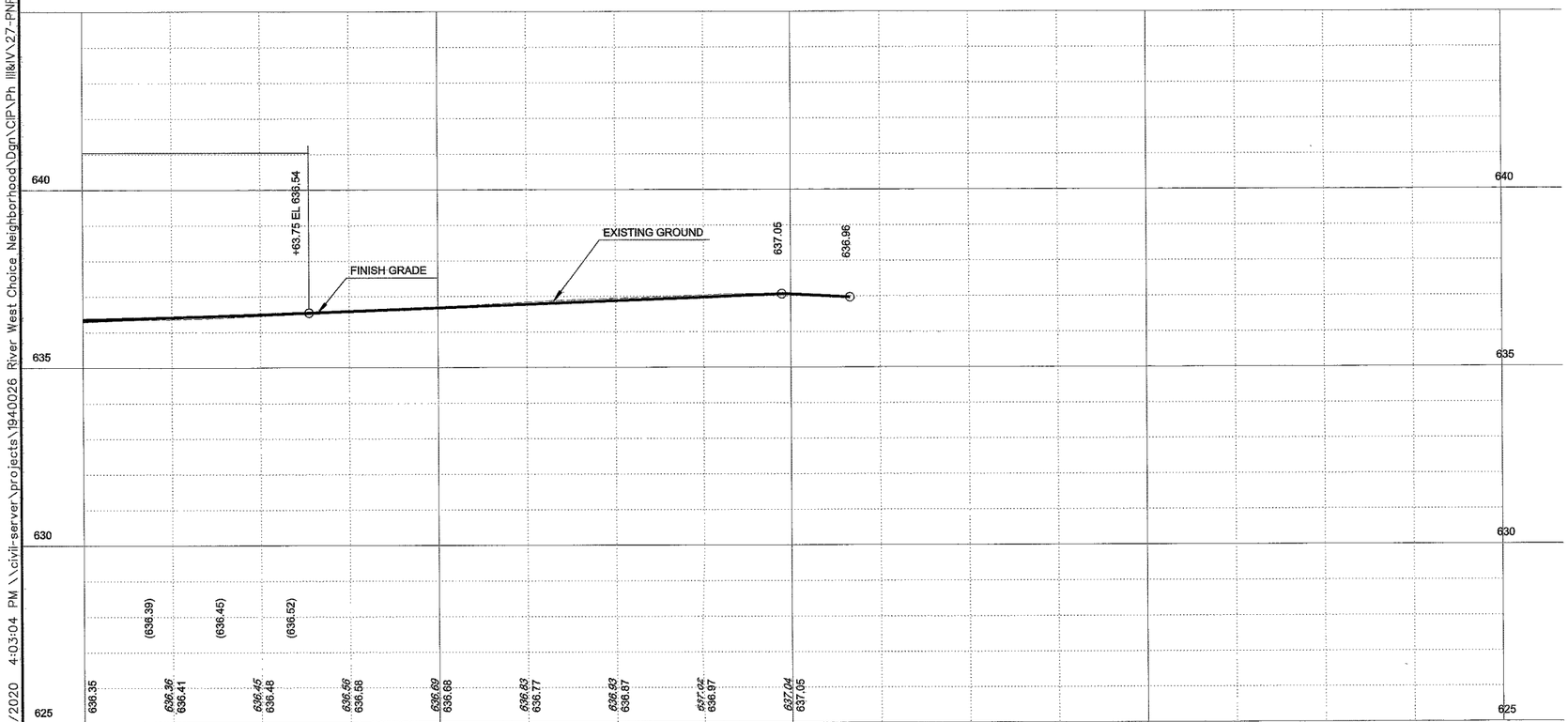
STA 96+16.65
END SOUTH NOGALES AVENUE ROADWAY CONSTRUCTION
PROJ # 148170
N 417959.52
E 2558083.82

LEGEND	
	ASPHALT MILL AND OVERLAY
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT

NOTE:
FOR TYPICAL SECTIONS, RE: SHT 14-15
FOR GEOMETRICS, RE: SHT 16
FOR INTERSECTIONS, RE: SHT 28-29
FOR STORM SEWER DATA, RE: SHTS 36-39
FOR SANITARY SEWER DATA, RE: SHTS 43-51
FOR WATER LINE DATA, RE: 53-55
FOR LANDSCAPE & IRRIGATION, RE: SHTS 63-65
FOR STREET LIGHTING, RE: SHTS 66-69

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)



20 0 10 20
1"=20' FULL SIZE
1"=40' HALF SIZE

BEFORE YOU DIG CALL OKIE 1-800-522-OKIE

CAUTION
NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020
OKLAHOMA CA #1450
EXP DATE 6/30/21

SOUTH NOGALES AVE
STA 94+00.00 TO STA 96+16.65

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK.74103
(918) 584-5868

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=2'-0"	PROJ MGR.	DPD	11/20/20
	LEAD MGR.	BDC	11/20
	FIELD MGR.	DZL	11/20
	RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED:
CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 27 OF 69 SHEETS

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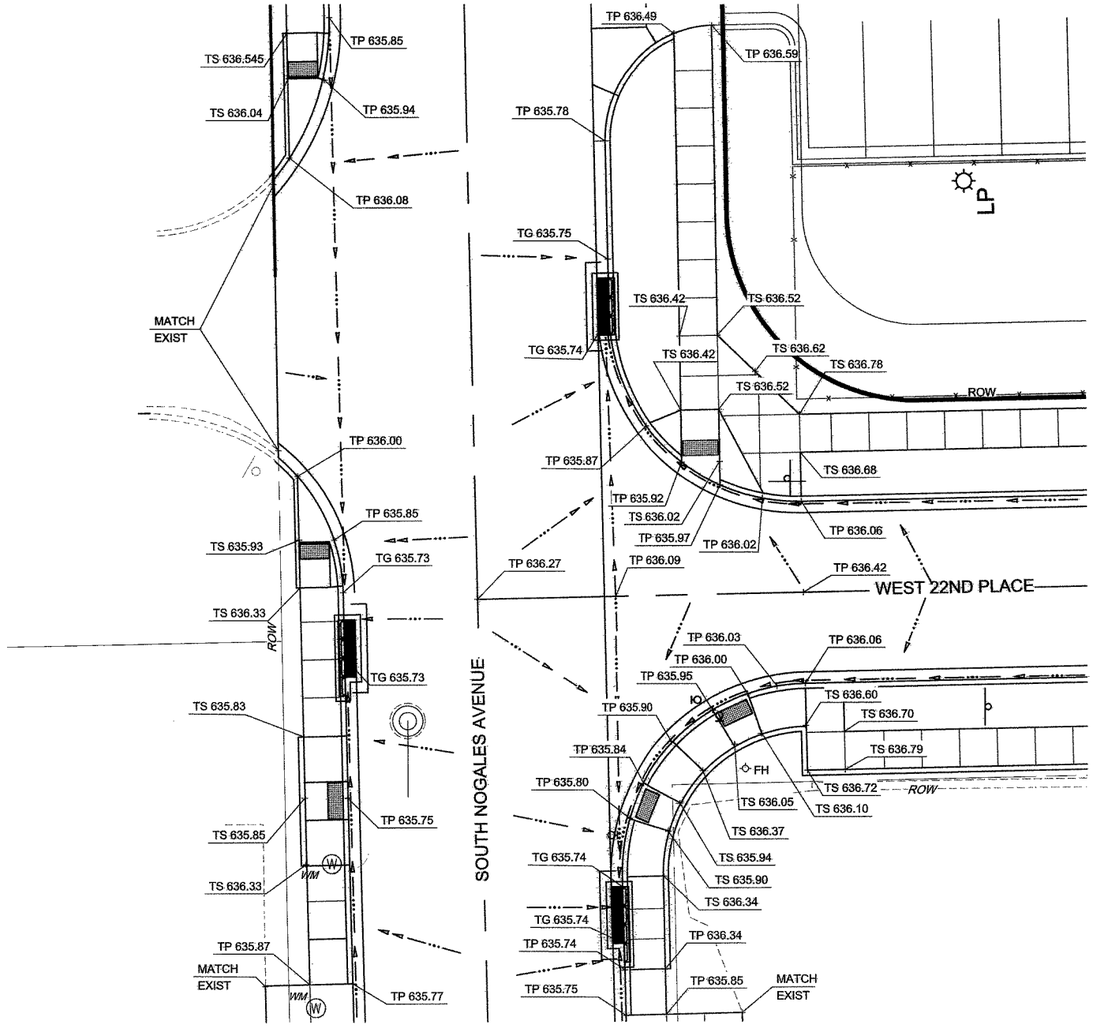
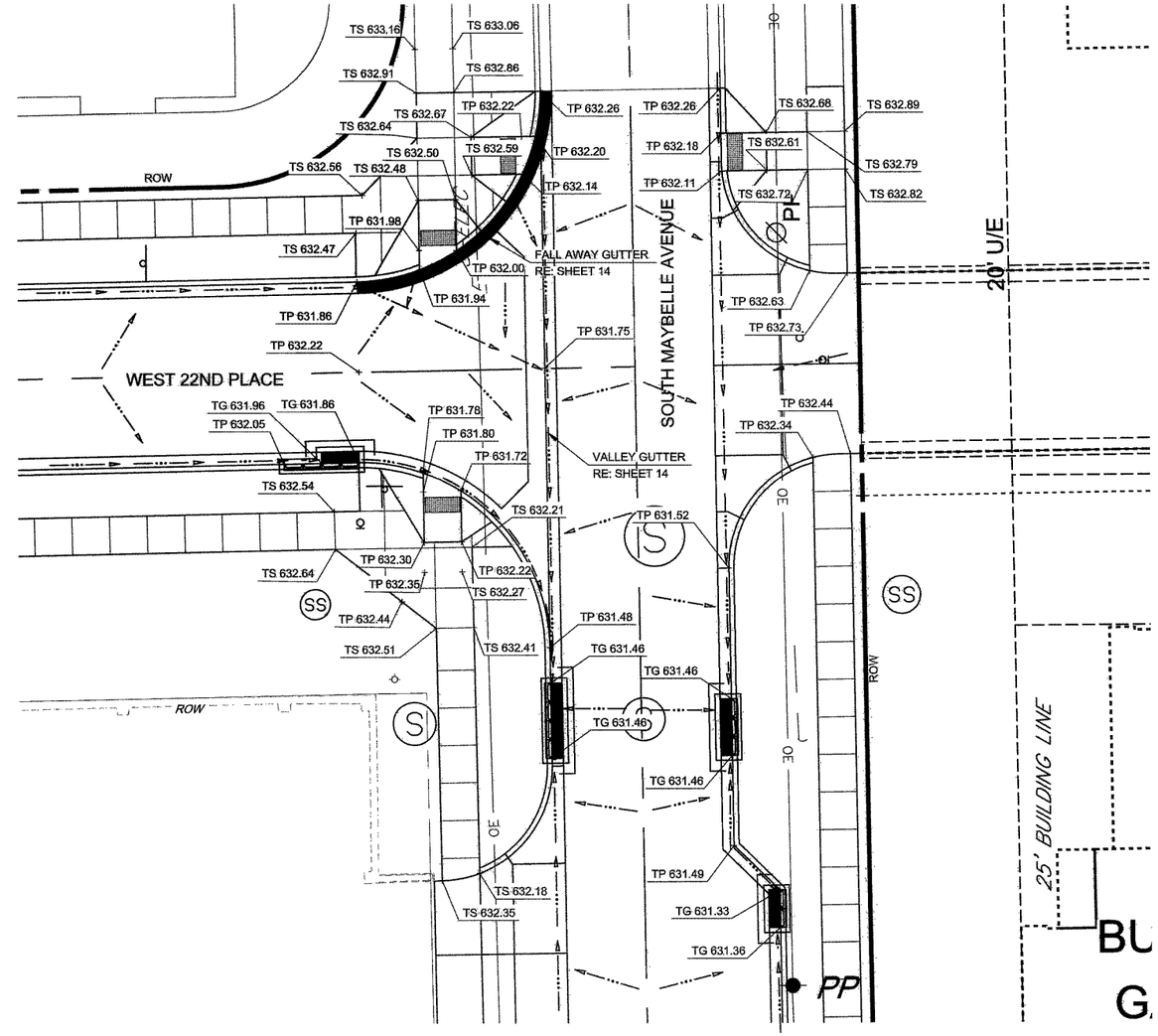
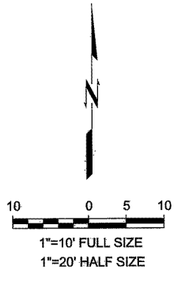


1 W. 22ND PL. AND S. NOGALES AVE.
SCALE: 1"=10'



2 W. 22ND PL. AND S. MAYBELLE AVE.
SCALE: 1"=10'





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11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

INTERSECTION PLANS SHEET 1

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=10'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.		
HORIZONTAL: N.A.	LEAD MGR.		
	FIELD MGR.		
VERTICAL: N.A.	RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 28 OF 69 SHEETS

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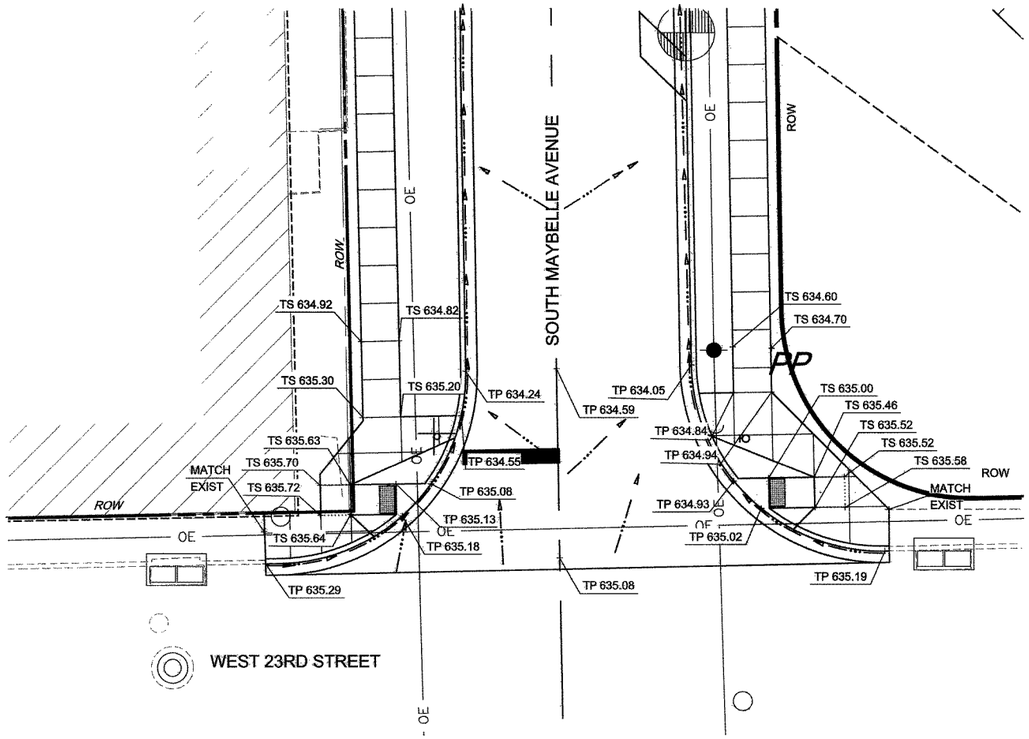

3 W. 23RD ST. AND S. MAYBELLE AVE.
SCALE: 1"=10'

10 0 5 10
1"=10' FULL SIZE
1"=20' HALF SIZE

BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

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LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020
OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

INTERSECTION PLANS
SHEET 2

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

PLAN SCALE: 1"=10'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.	[illegible]	11/20/20
HORIZONTAL: N.A.	LEAD MGR.	BDC	11/20
VERTICAL: N.A.	FIELD MGR.	[illegible]	11/20
	RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED:
CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 29 OF 69 SHEETS

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LEGEND
TEMP TRAFFIC CONTROL SIGN
TEMP TRAFFIC CONTROL BARRICADE
TEMP TRAFFIC CONTROL CHANNELIZING DEVICE

N

100 0 50 100

1"=100' FULL SIZE
1"=200' HALF SIZE

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

CAUTION

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OKLAHOMA LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548

11/17/2020

ADVANCED TRAFFIC CONTROL

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=100'-0"
PROFILE SCALE: HORIZONTAL: N.A. VERTICAL: N.A.

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ.MGR.		
LEAD MGR.		
FIELD MGR.		
RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 30 OF 69 SHEETS

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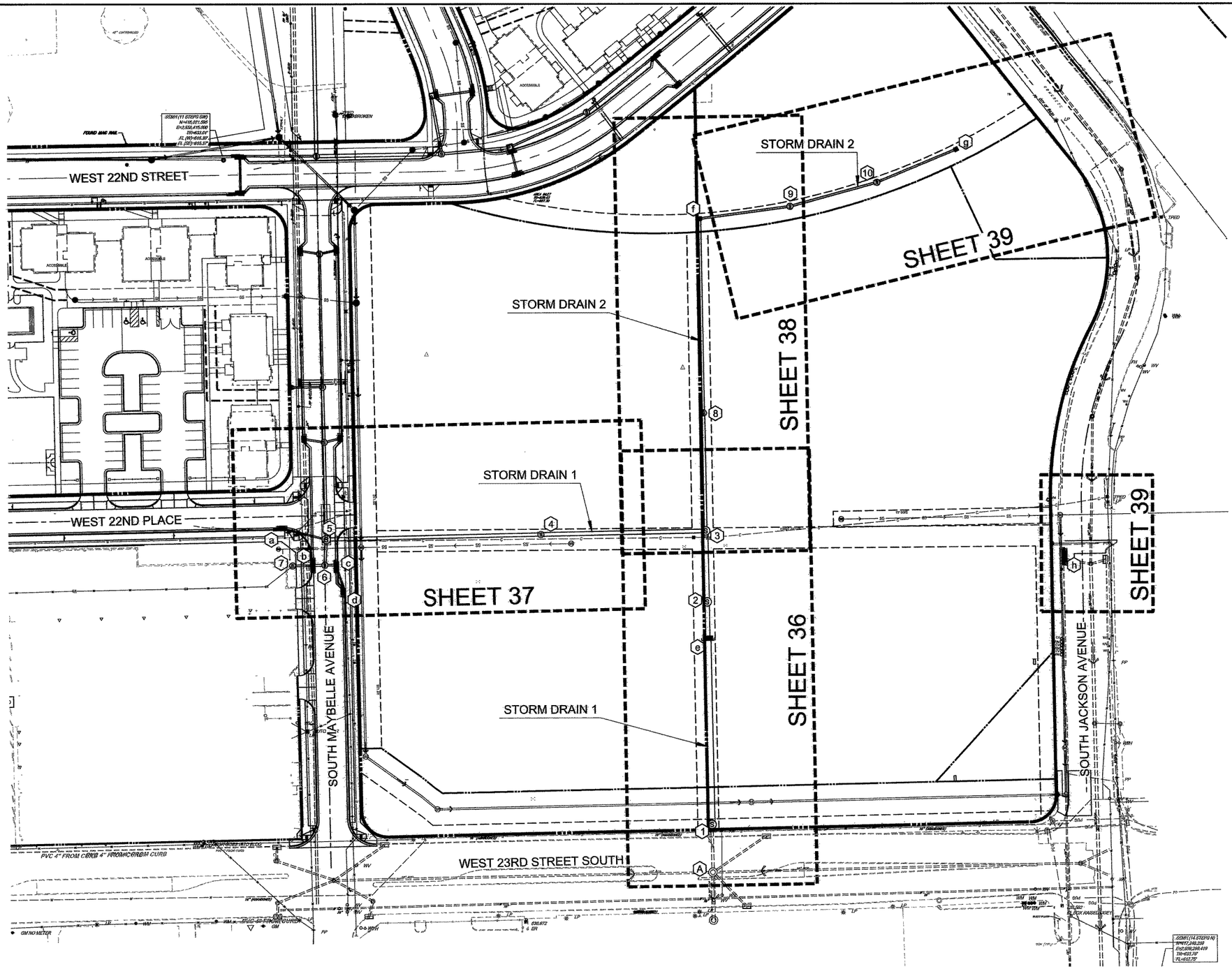

BENCHMARK 1
CHISELED SQUARE
N: 417667.574
E: 2559185.253
ELEV: 631.551
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

BENCHMARK 2
CHISELED SQUARE
N: 417662.539
E: 2558852.597
ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 3
CHISELED SQUARE
N: 417434.527
E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

BENCHMARK 4
CHISELED SQUARE
N: 418034.225
E: 2558919.468
ELEV: 632.162
(LOCATED ON THE SOUTH CURB OF THE NORTH PARKING LOT)

BENCHMARK 5
CHISELED SQUARE
N: 417249.121
E: 2559207.250
ELEV: 636.393
(LOCATED ON THE SOUTH CURB OF THE FIRST DRIVEWAY ON THE WEST SIDE OF S JACKSON AVE SOUTH OF W 23RD ST)

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)

BENCHMARK 10
SSMH LID
N: 417464.378
E: 2559210.585
ELEV: 635.450
(LOCATED ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

N

50 0 25 50
1"=50' FULL SIZE
1"=100' HALF SIZE

STORM DRAIN LOCATION KEY MAP

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020

PLANS AND ESTIMATES PREPARED BY:
wallace
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STRUCTURAL CONSULTANTS INC.
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(918) 584-5858

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CALL OKIE

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REVISION	BY	DATE

PLAN SCALE: 1"=50'-0"
PROFILE SCALE:
HORIZONTAL: N.A.
VERTICAL: N.A.

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ.MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 33 OF 69 SHEETS

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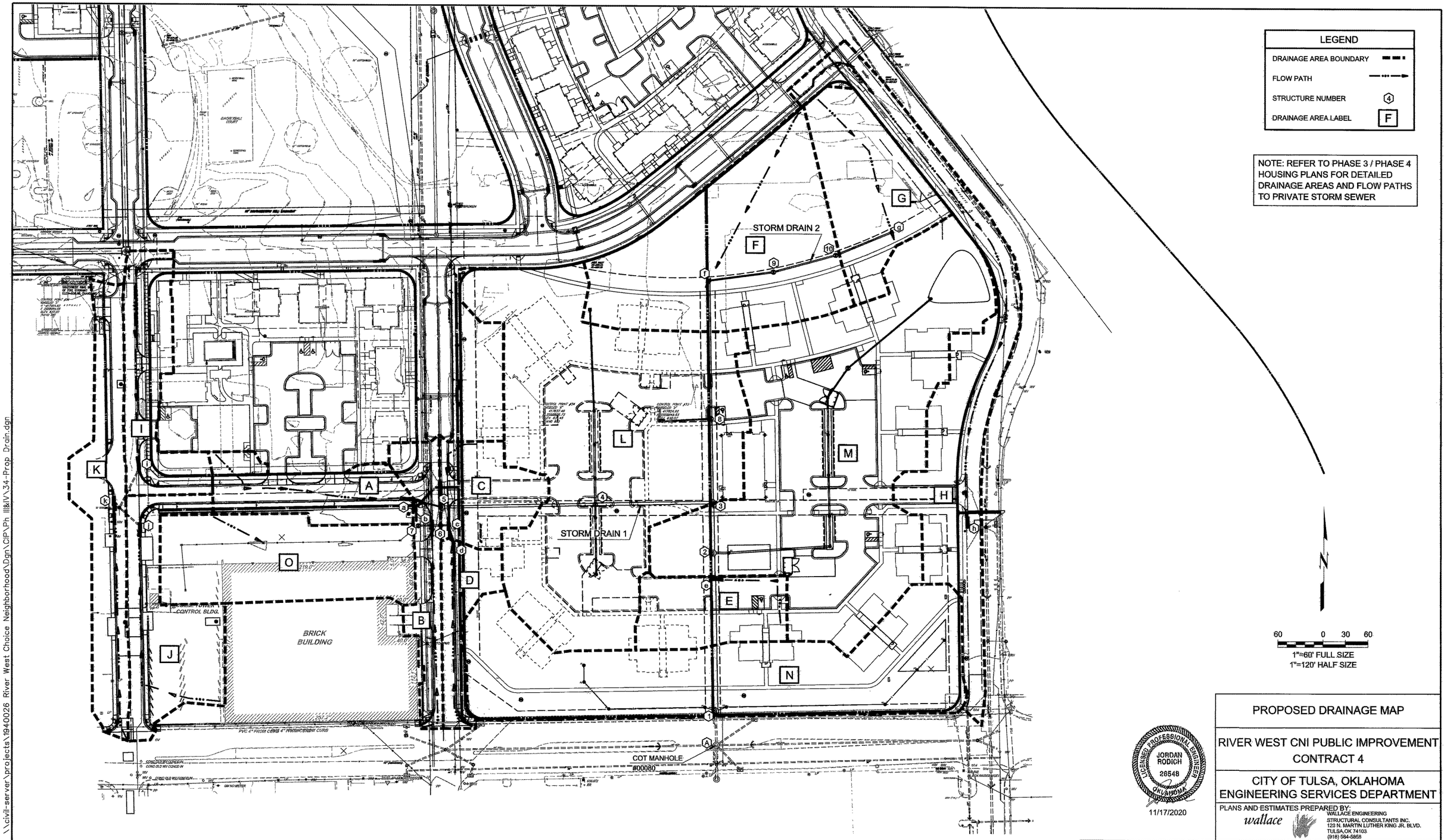

LEGEND

DRAINAGE AREA BOUNDARY	
FLOW PATH	
STRUCTURE NUMBER	4
DRAINAGE AREA LABEL	F

NOTE: REFER TO PHASE 3 / PHASE 4 HOUSING PLANS FOR DETAILED DRAINAGE AREAS AND FLOW PATHS TO PRIVATE STORM SEWER

PROPOSED DRAINAGE MAP

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA

11/17/2020

PLANS AND ESTIMATES PREPARED BY:
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TULSA, OK 74103
(918) 584-5858

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REVISION	BY	DATE

PLAN SCALE: 1"=60'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.	[signature]	11/2020
HORIZONTAL: N.A.	LEAD MGR.	BDC	11/20
	FIELD MGR.	[signature]	11/20
VERTICAL: N.A.	RECOMMENDED: HAS 11-20 DESIGN MANAGER		
FILE:	DRAWING:		
ATLAS PAGE NO.: 35			

APPROVED:

CITY ENGINEER

DATE: 11/20/2020

SHEET 34 OF 69 SHEETS

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INLET DESIGN TABLE (RATIONAL)

DRAINAGE AREA BASIN	INLET NO.	DRAINAGE AREA (SF)	DRAINAGE AREA (ACRES)	PAVED AREA (SF)	GRASS AREA (SF)	RATIONAL "C"	REACH GRASS (FEET)	SLOPE GRASS (%)	VELOCITY GRASS (FPS)	REACH PAVING (FEET)	SLOPE PAVING (%)	VELOCITY PAVING (FPS)	REACH GRASSED WATERWAY (FEET)	SLOPE GRASSED WATERWAY (%)	VELOCITY GRASSED WATERWAY (FPS)	TOTAL Tc (MIN)	I 100 (IN/HR)	Q 100 (CFS)	% SLOPE AT INLET	SUM Q 100 AT INLET (CFS)	D 100 INLET (FEET)	MAX DEPTH AT INLET (FEET)	INLET MAX CAPACITY (CFS)	FLOW CAPTURED BY INLET (CFS)	Q 100 BYPASS (CFS)	TO STRUCTURE	CLOGGING FACTOR	INLET DESIGN
A	a	18,626	0.43	10,559	8,067	0.71	48	2.2%	1.03	232	1.9%	2.80	0	0.0%	0.00	2.2	12.4	3.76	1.90%	3.76	0.25	-	2.97	2.97	0.79	b	0.70	Double Grate Design 2(B)
B	b	15,565	0.36	12,631	2,934	0.85	0	0.0%	0.00	282	1.3%	2.32	0	0.0%	0.00	2.0	12.4	3.76	sump	4.97	0.30	0.38	6.98	4.97	0.00	-	0.70	Quad Grate Design 4
C	c	15,834	0.36	8,306	7,328	0.69	37	4.2%	1.43	95	1.0%	2.03	0	0.0%	0.00	1.2	12.9	3.21	sump	4.24	0.31	0.38	5.63	4.24	0.00	-	0.70	Triple Grate Design 3
D	d	11,297	0.26	7,620	3,677	0.77	0	0.0%	0.00	251	1.2%	2.23	0	0.0%	0.00	1.9	12.5	2.50	1.00%	2.50	0.27	-	1.96	1.96	0.54	c	0.70	Double Grate Design 2
E	e	18,422	0.42	9,211	9,211	0.68	13	2.5%	1.10	136	0.9%	1.87	0	0.0%	0.00	1.4	12.8	3.65	sump	3.65	0.28	0.50	8.49	3.65	0.00	-	0.70	Triple Grate Design 3
F	f	61,635	1.41	18,491	43,145	0.57	150	1.8%	0.93	0	0.0%	0.00	75	1.8%	2.16	3.3	11.8	9.39	sump	9.39	0.50	2.55	46.15	0.00	0.00	-	0.80	ODOT SMD Inlet
G	g	28,786	0.66	2,879	25,907	0.46	150	1.9%	0.96	0	0.0%	0.00	31	1.9%	2.22	2.8	12.0	3.60	sump	3.60	0.26	1.33	33.33	0.00	0.00	-	0.80	ODOT SMD Inlet
H	h	52,588	1.21	39,441	13,147	0.81	0	0.0%	0.00	745	0.7%	1.70	0	0.0%	0.00	7.3	10.0	9.82	sump	9.82	0.38	0.38	9.84	9.82	0.00	-	0.70	Quad Grate Design 4(2A)
I	i	21,885	0.50	14,006	7,879	0.75	0	0.0%	0.00	319	0.7%	1.70	0	0.0%	0.00	3.1	11.8	4.46	sump	4.46	0.33	0.38	5.63	4.46	0.00	-	0.70	Triple Grate Design 3
J	j	27,589	0.63	27,084	505	0.94	0	0.0%	0.00	313	0.6%	1.57	0	0.0%	0.00	3.3	11.7	6.98	sump	6.98	0.38	0.38	6.98	6.98	0.00	-	0.70	Triple Grate Design 3(A)
K	k	28,673	0.66	24,372	4,301	0.87	0	0.0%	0.00	321	0.4%	1.29	0	0.0%	0.00	4.2	11.3	6.45	sump	6.45	0.38	0.38	6.98	6.45	0.00	-	0.70	Triple Grate Design 3(A)
L*	-	118,324	2.72	65,828	52,496	0.68	-	-	-	-	-	-	-	-	-	-	-	25.00	-	-	-	-	-	-	-	-	-	Future THA Phase 4 Housing
M*	-	124,420	2.86	57,562	66,858	0.63	-	-	-	-	-	-	-	-	-	-	-	24.42	-	-	-	-	-	-	-	-	-	Future THA Phase 3 Housing
N*	-	74,866	1.72	13,542	61,324	0.49	-	-	-	-	-	-	-	-	-	-	-	9.39	-	-	-	-	-	-	-	-	-	Future THA Phase 3/4 Housing
O*	-	30,032	0.69	30,032	0	0.90	-	-	-	-	-	-	-	-	-	-	-	8.63	-	-	-	-	-	-	-	-	-	Future Grocery Store

NOTE: RATIONAL "C" VALUE COMPUTED USING 0.40 FOR GRASS AREAS AND 0.95 FOR PAVED AREAS, PER 2019 COT STORMWATER MANUAL

* REFER TO PHASE 3 / PHASE 4 HOUSING PLANS FOR DETAILED DRAINAGE AREAS AND FLOW PATHS

PIPE DESIGN TABLE

Label	Start Node	Invert (Out) (ft)	Stop Node	Invert (In) (ft)	Length (ft)	Slope (%)	Conduit Shape	Material	Manning's n	Diameter (in)	Flow (ft³/s)	Capacity (Full Flow) (ft³/s)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)	Velocity (Maximum) (ft/s)	Velocity (Half Full) (ft/s)
CIP-1	1	622.15	e	622.94	173	0.46	Ellipse	Concrete	0.013	43"X68"	110.15	130.53	625.54	624.61	626.77	625.99	9.43	8.37
CIP-2	e	622.94	2	623.12	30	0.60	Circle	Concrete	0.013	48	106.42	111.26	626.25	626.06	627.83	627.65	10.08	8.85
CIP-3	2	623.12	3	623.41	63	0.46	Circle	Concrete	0.013	48	82.00	97.45	627.40	627.20	628.07	627.86	8.69	7.75
CIP-4	3	623.91	4	624.61	152	0.46	Circle	Concrete	0.013	42	63.81	68.27	628.41	627.80	629.10	628.49	6.63	7.10
CIP-5	4	625.11	5	626.05	200	0.47	Circle	Concrete	0.013	36	38.81	45.72	629.50	628.82	629.97	629.29	5.49	6.47
CIP-6	5	627.80	a	628.19	39	1.00	Circle	Concrete	0.013	15	3.28	6.46	629.86	629.78	629.99	629.89	2.67	5.26
CIP-7	5	627.05	6	627.25	20	1.00	Circle	Concrete	0.013	24	20.36	22.62	629.94	629.78	630.60	630.43	6.48	7.20
CIP-8	6	627.75	c	627.83	8	1.00	Circle	Concrete	0.013	18	6.00	10.50	630.36	630.34	630.54	630.51	3.40	5.94
CIP-9	c	628.08	d	628.30	22	1.00	Circle	Concrete	0.013	15	1.06	6.46	630.42	630.42	630.43	630.43	0.86	5.26
CIP-10	6	627.25	b	627.33	8	1.00	Circle	Concrete	0.013	24	14.36	22.62	630.37	630.34	630.69	630.66	4.57	7.20
CIP-11	b	627.83	7	627.97	14	1.00	Circle	Concrete	0.013	18	8.63	10.50	630.62	630.53	631.00	630.90	4.88	5.94
CIP-12	3	624.91	8	625.33	108	0.39	Circle	Concrete	0.013	30	18.19	25.64	628.01	627.80	628.23	628.02	3.71	5.22
CIP-13	8	625.83	f	626.73	180	0.50	Circle	Concrete	0.013	24	12.99	16.00	628.73	628.14	629.00	628.41	4.13	5.09
CIP-14	f	627.23	9	627.64	82	0.50	Circle	Concrete	0.013	18	3.60	7.43	628.89	628.81	628.97	628.88	4.17	4.20
CIP-15	9	627.64	10	628.05	82	0.50	Circle	Concrete	0.013	18	3.60	7.43	628.95	628.90	629.12	628.98	4.17	4.20
CIP-16	10	628.05	g	628.44	77	0.51	Circle	Concrete	0.013	18	3.60	7.48	629.17	628.97	629.45	629.12	4.19	4.23

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020

PROPOSED DRAINAGE TABLES

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: N.A.
PROFILE SCALE: HORIZONTAL: N.A. VERTICAL: N.A.

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 35 OF 69 SHEETS

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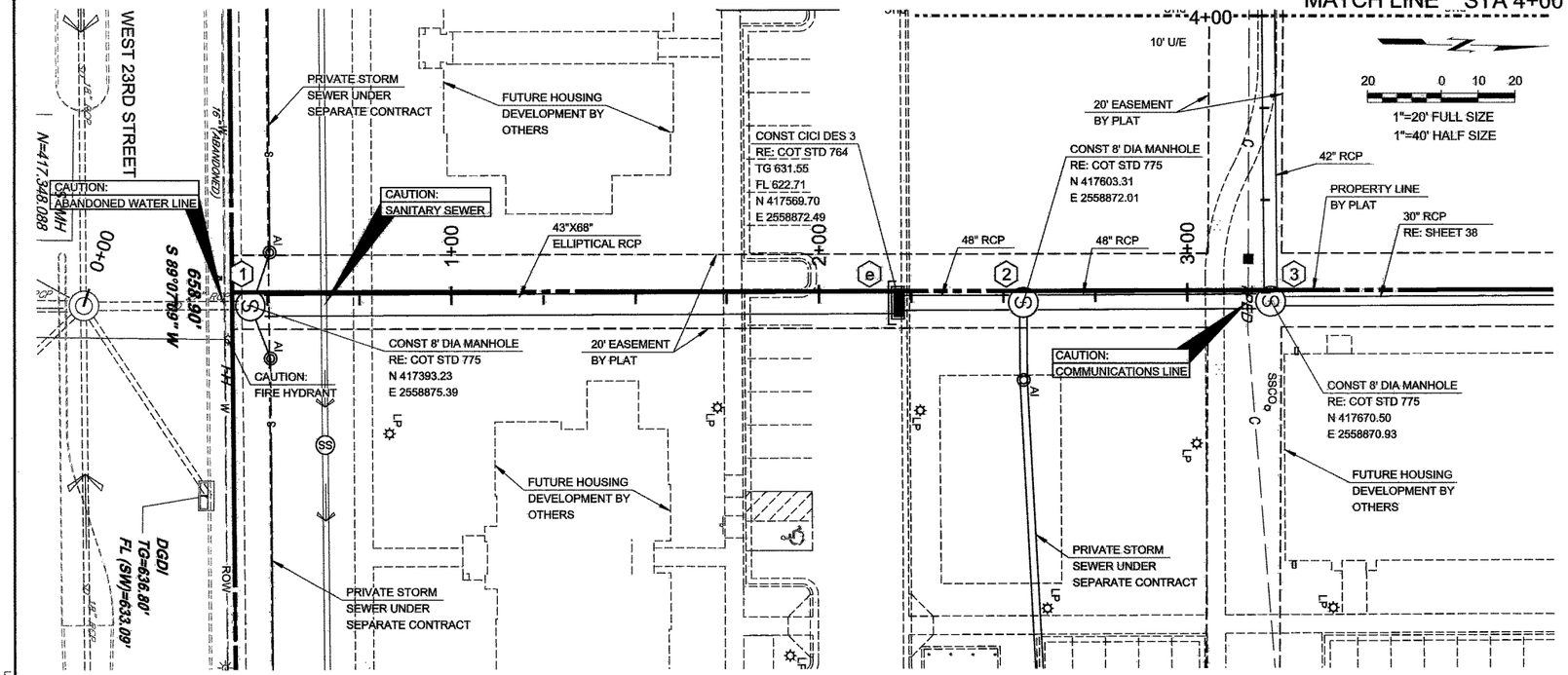

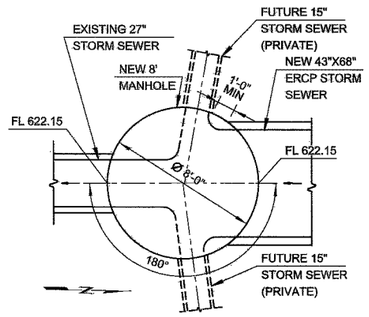

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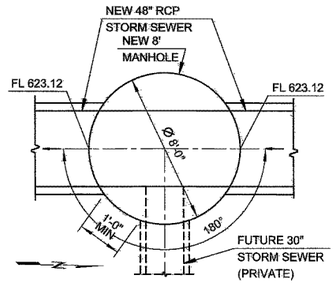
SCALE: 1" = 4'



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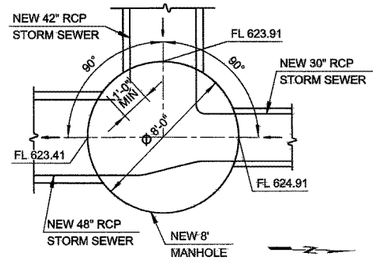
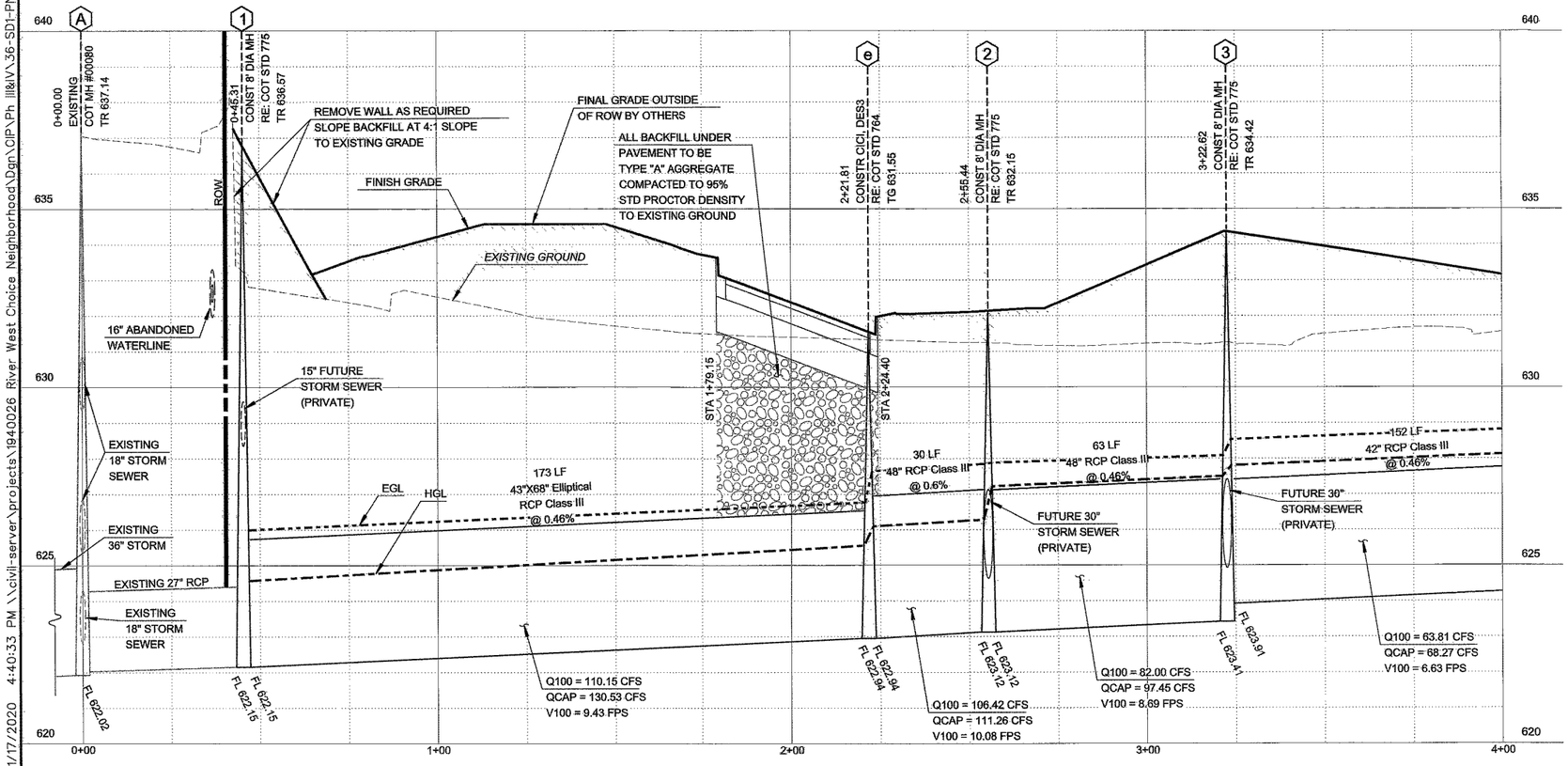
SCALE: 1" = 4'



3 INVERT DETAIL - MANHOLE 3
SCALE: 1" = 4'



BEFORE YOU DIG 1800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

BENCHMARK 3
CHISELED SQUARE
N: 417434.527
E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

NOTE:

1. CONTRACTOR SHALL USE COT STD 751 STANDARD PIPE BEDDING DETAIL FOR STORM SEWER FOR PRE-CAST RCP. RE: 3/SHEET 39

OKLAHOMA LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548

11/17/2020

STORM DRAIN 1 PLAN & PROFILE STA 0+00 TO STA 4+00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=2'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.	BDC	11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
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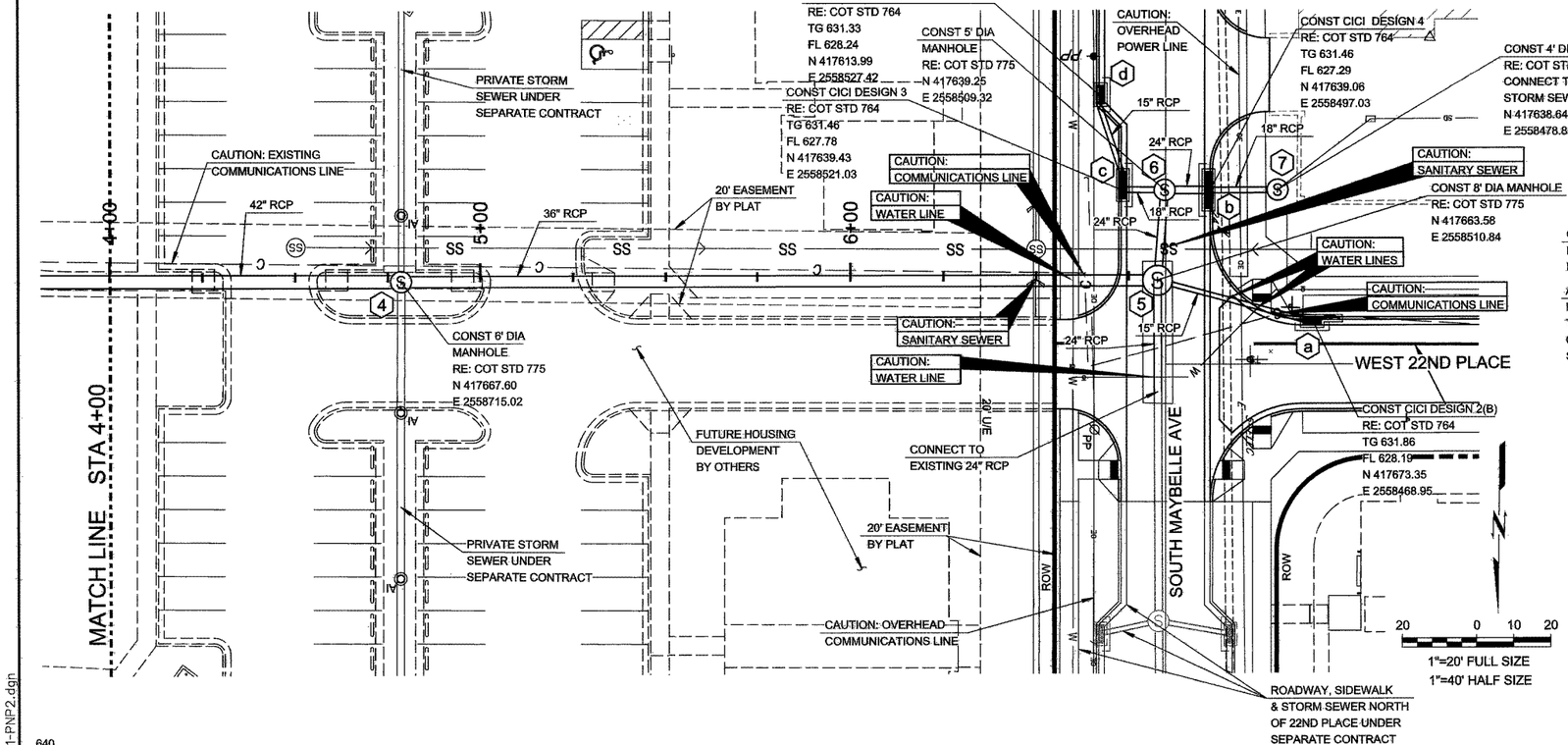

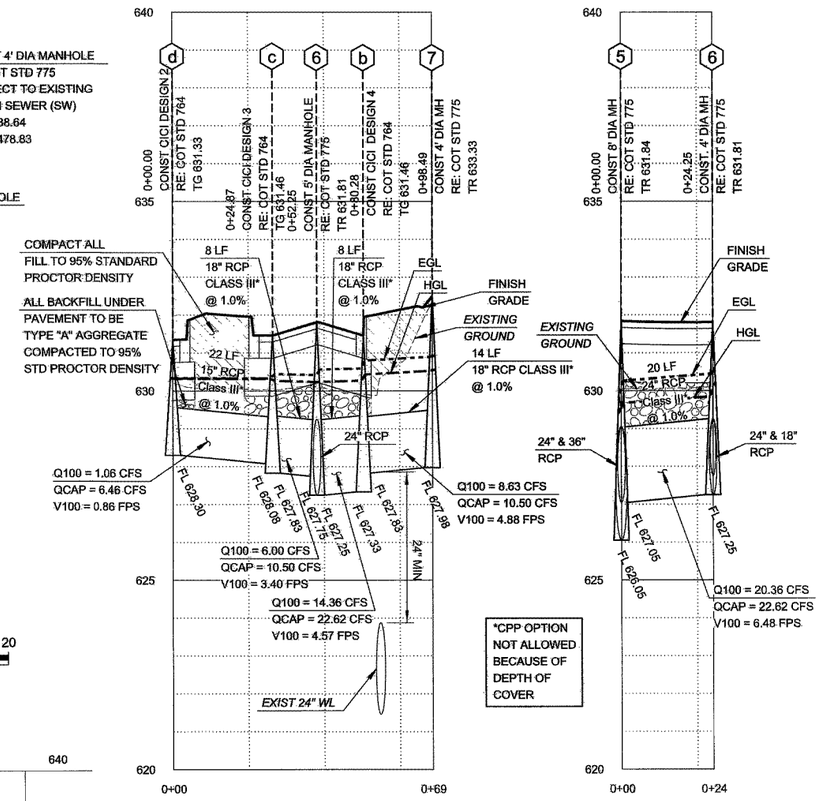

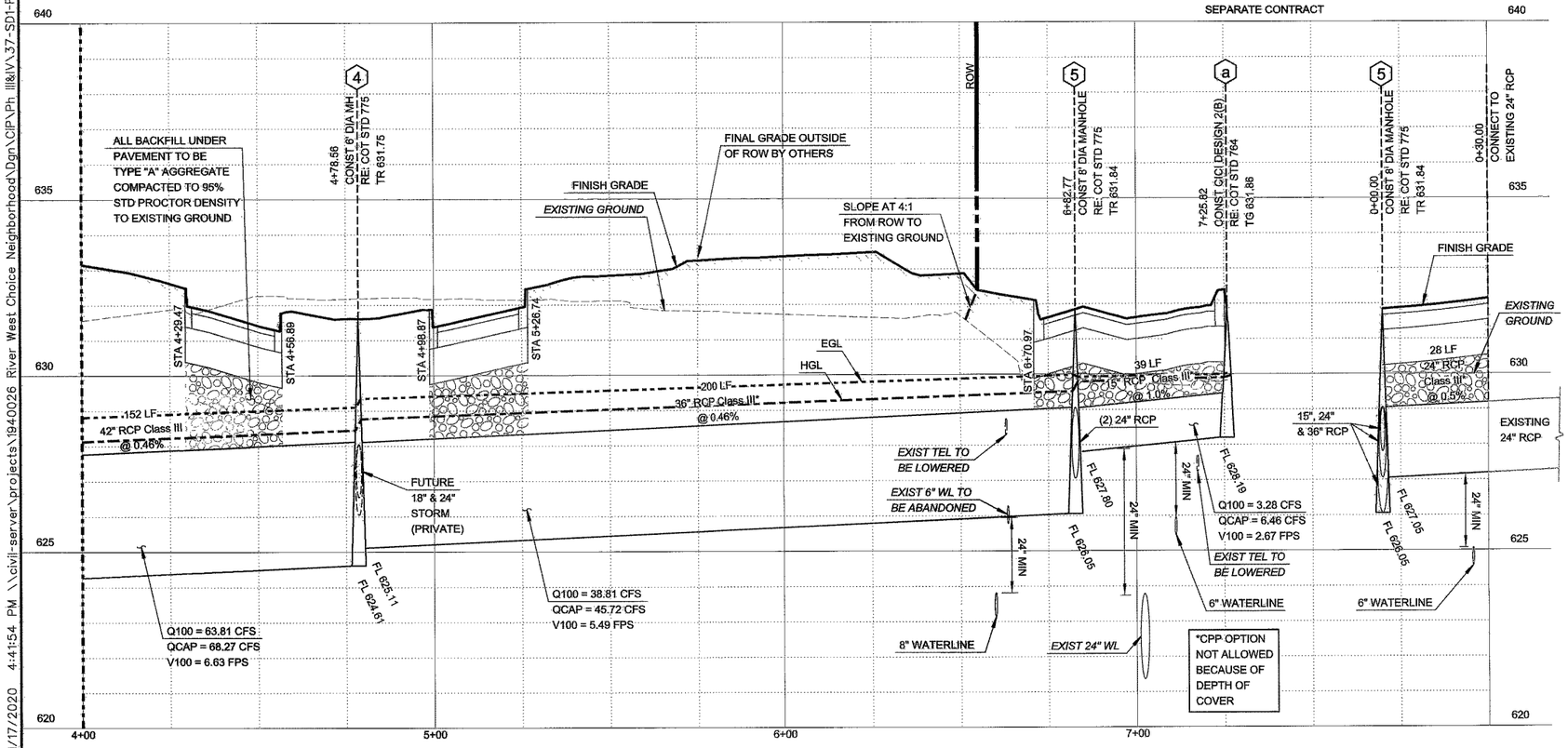

BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

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BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

NOTE:

1. CONTRACTOR SHALL USE COT STD 751 STANDARD PIPE BEDDING DETAIL FOR STORM SEWER FOR PRE-CAST RCP. RE: 3 / SHEET 39.

STORM DRAIN 1 PLAN & PROFILE STA 4+00 TO STA 7+25.82

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE:
HORIZONTAL: 1"=20'-0"
VERTICAL: 1"=2'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 37 OF 69 SHEETS

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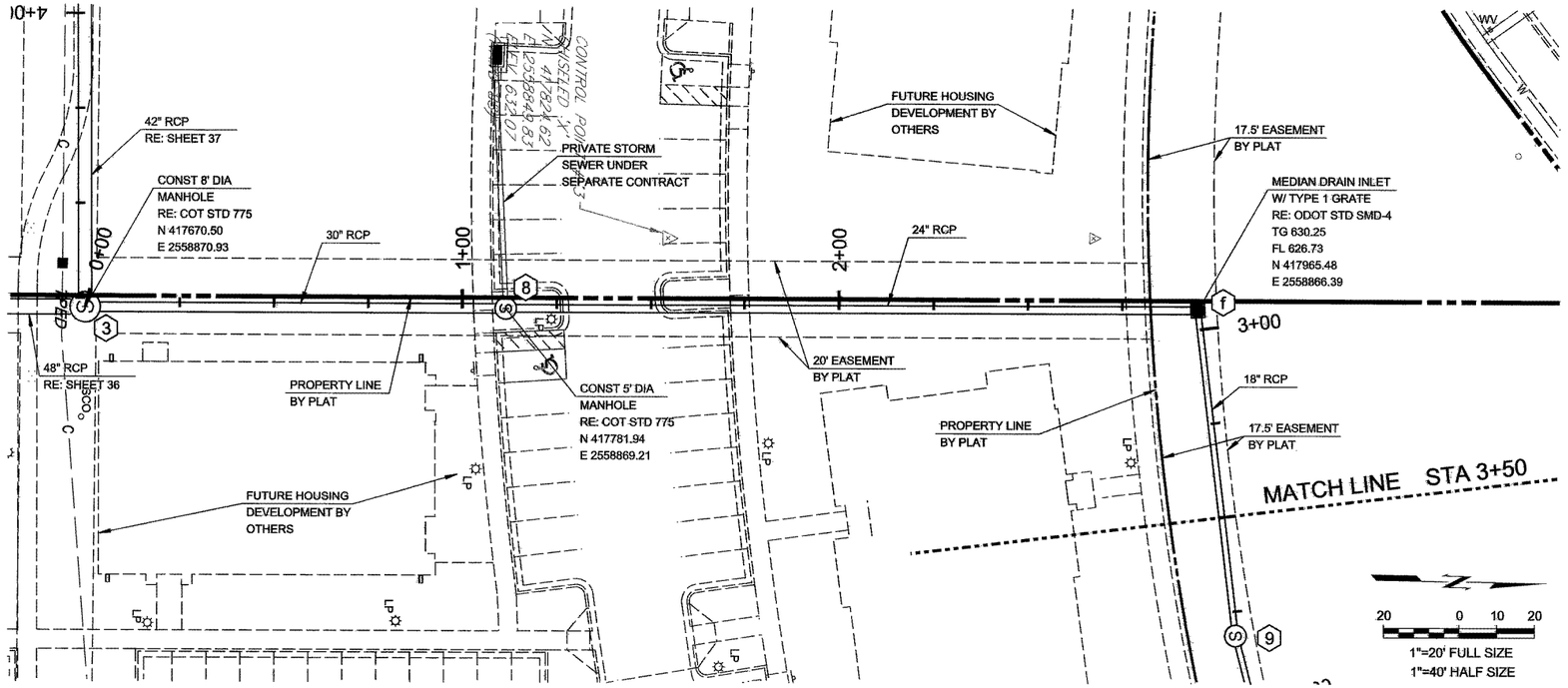
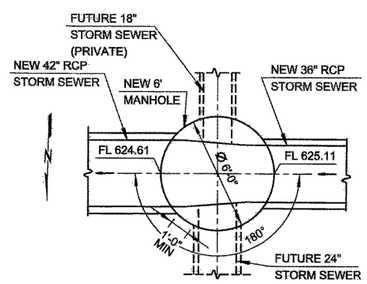
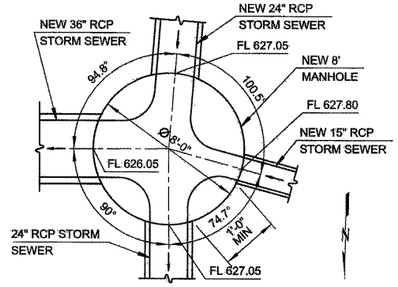
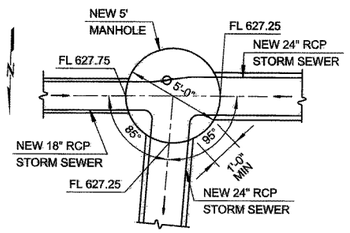




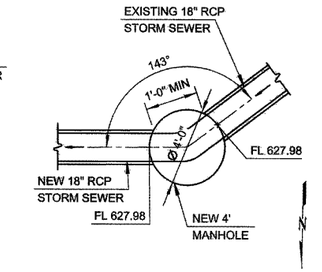
1 INVERT DETAIL - MANHOLE 4
SCALE: 1" = 4'



2 INVERT DETAIL - MANHOLE 5
SCALE: 1" = 4'



3 INVERT DETAIL - MANHOLE 6
SCALE: 1" = 4'



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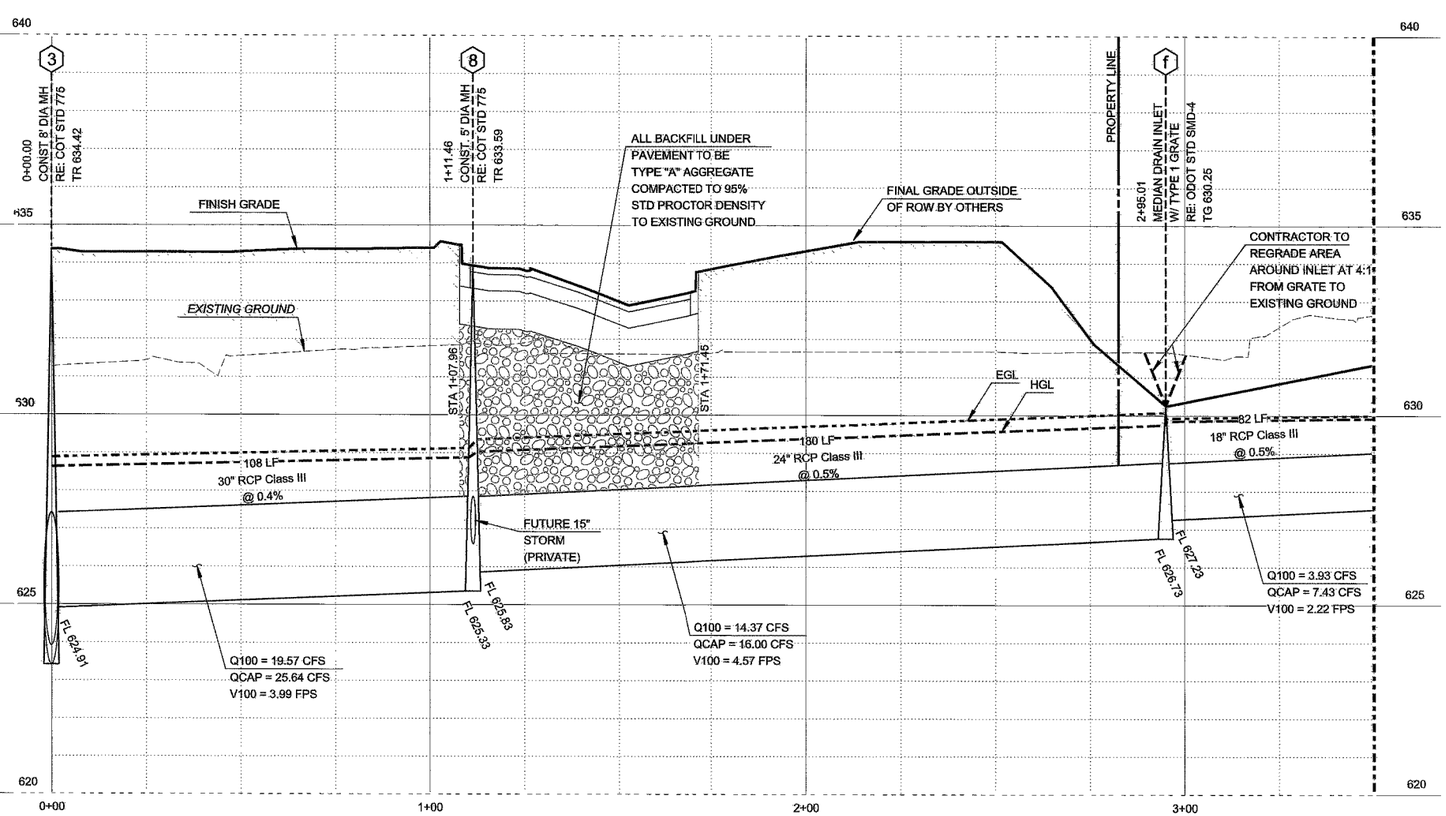
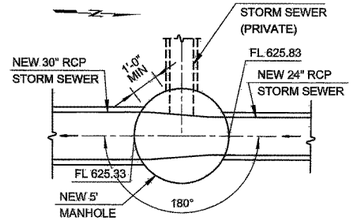
SCALE: 1" = 4'



BENCHMARK 3
CHISELED SQUARE
N: 417434.527
E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E: 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)



5 INVERT DETAIL - MANHOLE 8
SCALE: 1" = 4'

NOTE:

1. CONTRACTOR SHALL USE COT STD 751 STANDARD PIPE BEDDING DETAIL FOR STORM SEWER FOR PRE-CAST RCP. RE: 3 / SHEET 39.

BEFORE YOU DIG 1800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

OKLAHOMA LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548

11/17/2020

STORM DRAIN 2 PLAN & PROFILE STA 0+00 TO STA 3+50.00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE:
HORIZONTAL: 1"=20'-0"
VERTICAL: 1"=2'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 38 OF 69 SHEETS

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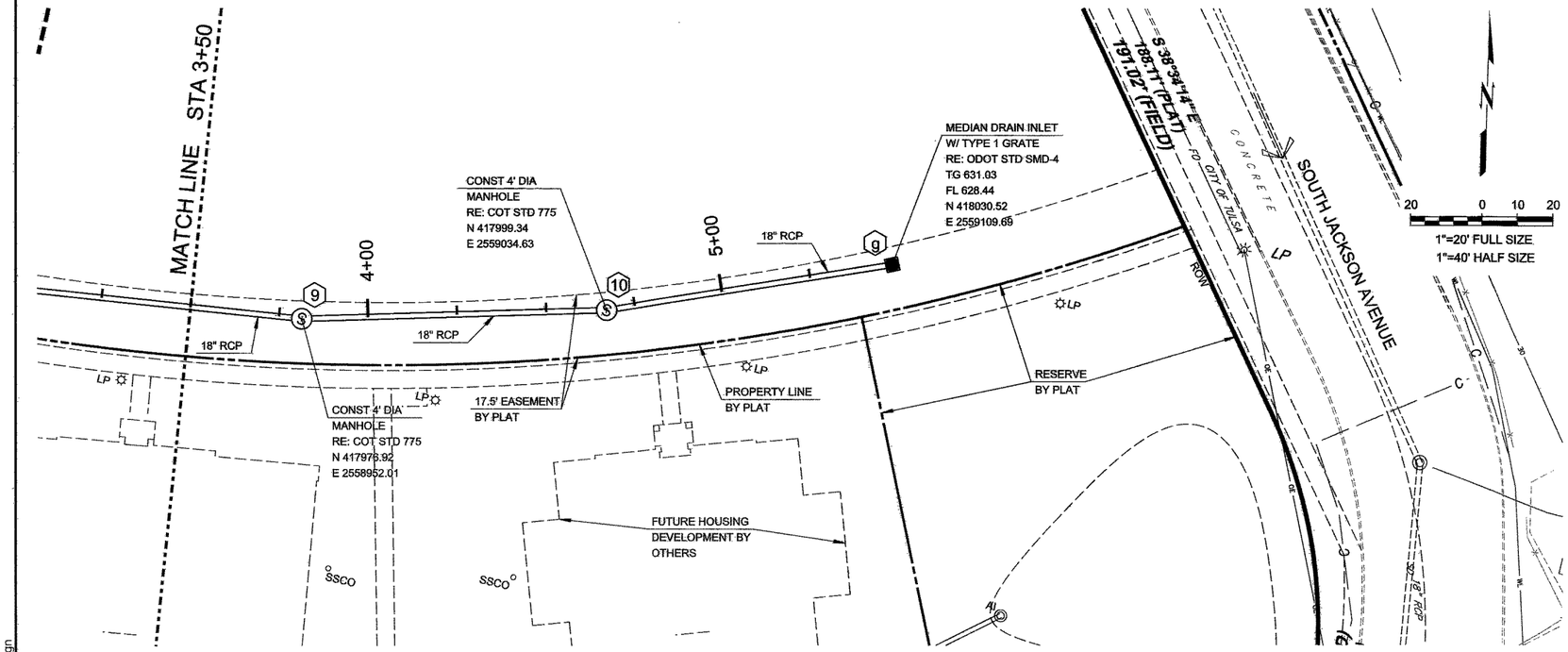
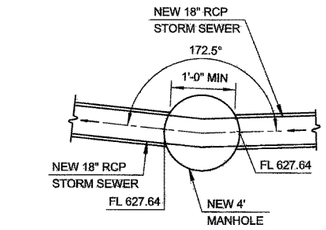
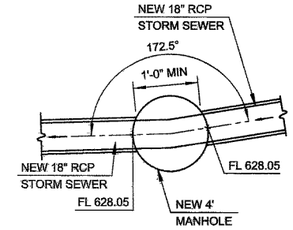




1 INVERT DETAIL - MANHOLE 9
SCALE: 1" = 4'



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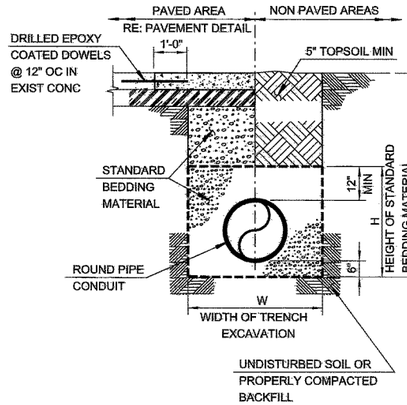
SCALE: 1" = 4'



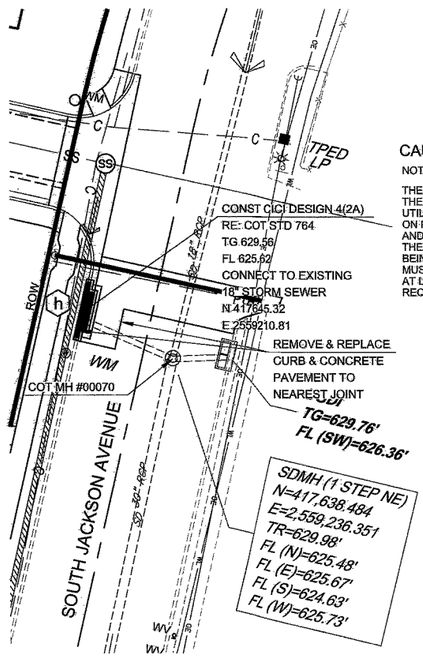
LIMITS OF STANDARD BEDDING MATERIAL QUANTITIES FOR BEDDING MATERIAL DO NOT INCLUDE THE SPACE WITHIN AND BOUNDED BY THE OUTER SURFACE OF THE PIPE CONDUIT.

TRENCH NOTE:
BRACING AND SHEATHING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND OSHA SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE RESPONSIBILITY OF THE CONTRACTOR.

BEDDING NOTE:
STANDARD BEDDING MATERIAL MUST BE ODOT TYPE "A" AGGREGATE BASE. UNDER PAVING ODOT TYPE "A" AGGREGATE BASE MUST BE TO THE TOP OF THE TRENCH. ODOT TYPE "A" AGGREGATE BASE TO BE COMPACTED TO 98% MODIFIED PROCTOR DENSITY.

PIPE SIZE, IN.	TRENCH WIDTH, FT.
ID ≤ 24"	OD + 2'
24" > ID ≤ 36"	OD + 2.5'
36" > ID ≤ 60"	OD + 3.5'
ID > 60"	OD + 4'

3 STANDARD PIPE BEDDING DETAIL FOR STORM SEWER
SCALE: NTS



BEFORE YOU DIG 800-522-OKIE CALL OKIE

CAUTION
NOTICE TO CONTRACTOR

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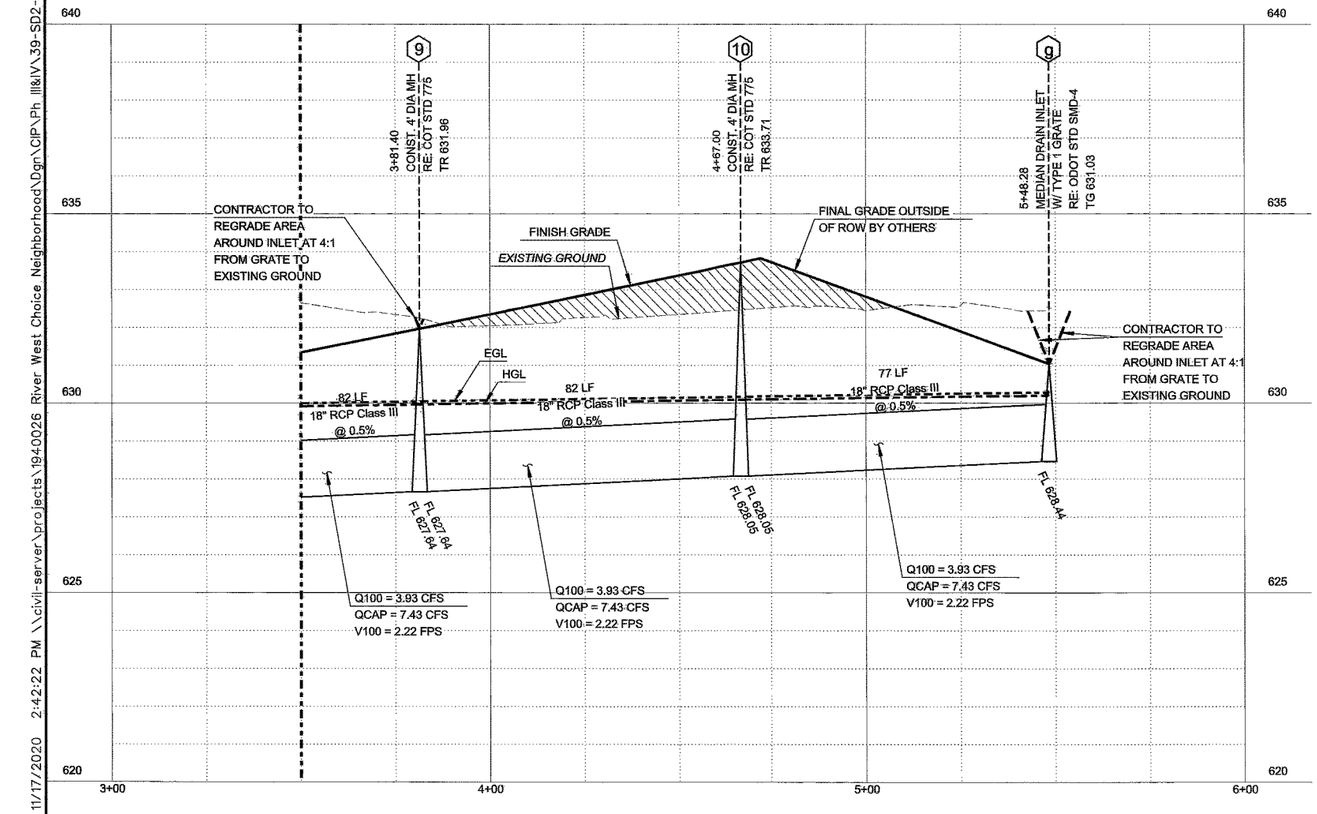
BENCHMARK 2
CHISELED SQUARE
N: 417662.539
E: 2558852.597
ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 4
CHISELED SQUARE
N: 418034.225
E: 2558919.468
ELEV: 632.162
(LOCATED ON THE SOUTH CURB OF THE NORTH PARKING LOT)

NOTE:

1. CONTRACTOR SHALL USE COT STD 751 STANDARD PIPE BEDDING DETAIL FOR STORM SEWER FOR PRE-CAST RCP. RE: 3 / SHEET 39.



REVISION	BY	DATE

STORM DRAIN 2 PLAN & PROFILE STA 3+50 TO STA 5+48.28

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020

PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=2'-0"	PROJ MGR.	[illegible]	11/2020
	LEAD MGR.	BDC	11/20
	FIELD MGR.	ZMR	11/20
	RECOMMENDED: DESIGN MANAGER	AAS	11-20

APPROVED:
CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 39 OF 89 SHEETS

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BENCHMARK 1
CHISELED SQUARE
N: 417667.574
E: 2559185.253
ELEV: 631.551
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

BENCHMARK 2
CHISELED SQUARE
N: 417662.539
E: 2558852.597
ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 3
CHISELED SQUARE
N: 417434.527
E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

BENCHMARK 4
CHISELED SQUARE
N: 418034.225
E: 2558919.468
ELEV: 632.162
(LOCATED ON THE SOUTH CURB OF THE NORTH PARKING LOT)

BENCHMARK 5
CHISELED SQUARE
N: 417249.121
E: 2559207.250
ELEV: 636.393
(LOCATED ON THE SOUTH CURB OF THE FIRST DRIVEWAY ON THE WEST SIDE OF S JACKSON AVE SOUTH OF W 23RD ST)

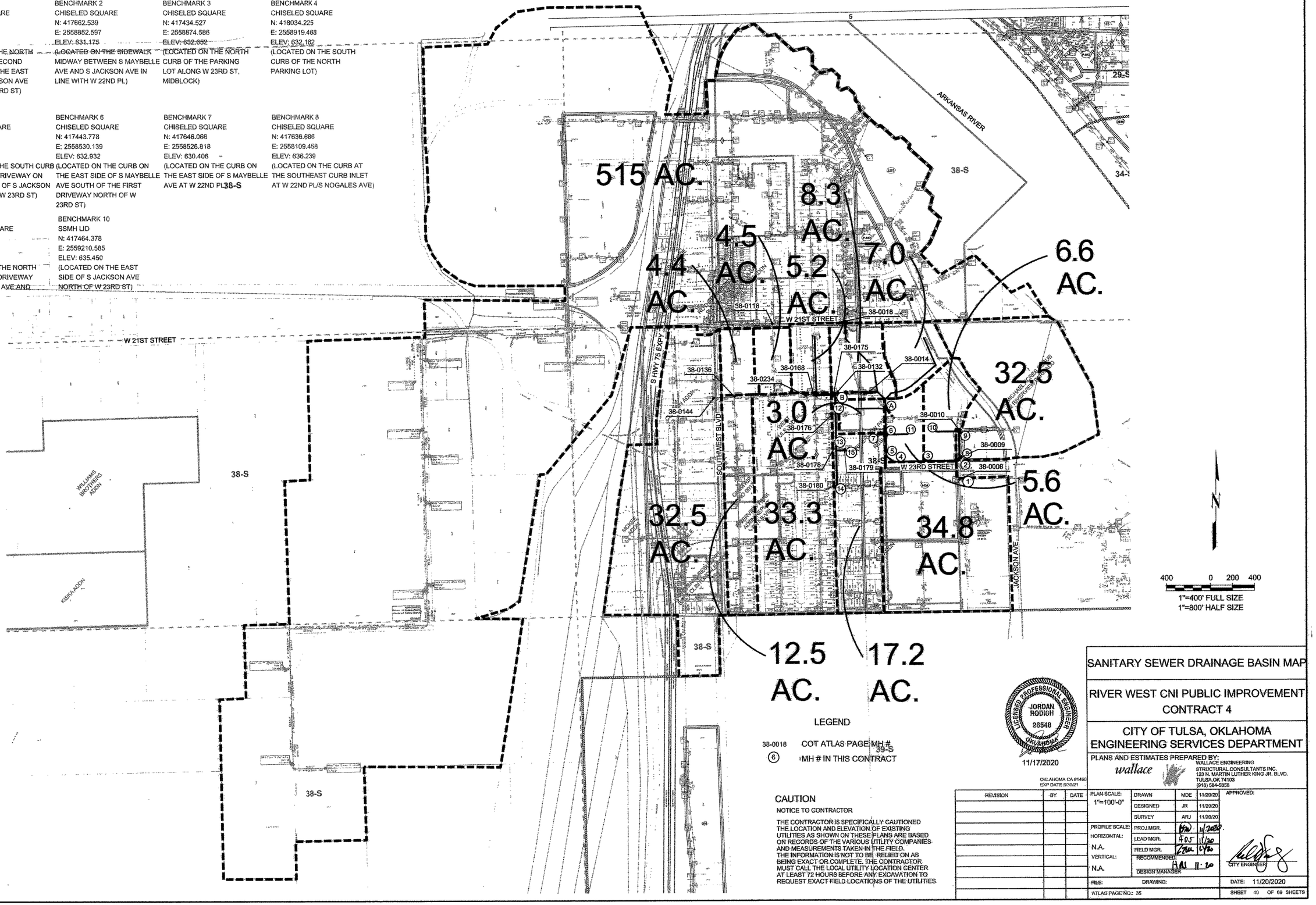
BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E: 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)

BENCHMARK 10
SSMH LID
N: 417464.378
E: 2559210.585
ELEV: 635.450
(LOCATED ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)



LEGEND

38-0018 COT ATLAS PAGE/MH #

(6) MH # IN THIS CONTRACT

CAUTION

NOTICE TO CONTRACTOR

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LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA
11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

SANITARY SEWER DRAINAGE BASIN MAP

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

PLAN SCALE: 1"=100'-0"	DRAWN	MDE	11/20/20	APPROVED:
	DESIGNED	JR	11/20/20	
	SURVEY	ARJ	11/20/20	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N.A.	LEAD MGR.			
VERTICAL: N.A.	FIELD MGR.			CITY ENGINEER
	RECOMMENDED: DESIGN MANAGER			
FILE:	DRAWING:			DATE: 11/20/2020
ATLAS PAGE NO.: 35				SHEET 40 OF 69 SHEETS

11/17/2020 8:50:01 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\40-SS Drainage Map.dgn

BENCHMARK 1
CHISELED SQUARE
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ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 3
CHISELED SQUARE
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E: 2558874.586
ELEV: 632.652
(LOCATED ON THE NORTH CURB OF THE PARKING LOT ALONG W 23RD ST, MIDBLOCK)

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ORDINANCE FLOW CALCULATION:

Q=0.0227 X AREA^(0.8169)

Flow Calculations

				Existing Pipe				Proposed Pipe						
Analysis Point	Contract 4 SSMH #	Drainage Area	Ordinance Flow	I.D.	Slope	90% Capacity	Adequate?	Material	Method	I.D.	O.D	Slope	90% Capacity	Adequate?
		Acres	MGD	Inches	%	MGD				Inches		%	MGD	
SSMH 38-0180	14	17.2	0.14988	8	0.40	0.6205	TRUE	HDPE SDR 21	slipline	6.44	8	0.40	0.3600	TRUE
SSMH 38-0178	13	17.2	0.14988	8	0.40	0.6205	TRUE	HDPE SDR 21	slipline	6.44	8	0.40	0.3600	TRUE
SSMH 38-0010	9	6.6	0.06854	-	-	-	-	PVC SDR 35	new	8	-	1.20	1.0729	TRUE
SSMH 38-0010	9	32.5	0.25205	8	0.40	0.6205	TRUE	-	-	-	-	-	-	-
SSMH 38-0010	9	39.1	0.29314	15	0.15	2.0230	TRUE	HDPE SDR 21	slipline	11.46	12.75	0.11	0.8531	TRUE
new MH	A	642.9	2.88671	15	0.15	2.0230	FALSE	PVC SDR26	new	18	-	0.12	2.9537	TRUE
new MH	A	642.9	2.88671	15	0.15	2.0230	FALSE	PVC SDR26	new	18	-	0.12	2.9537	TRUE
new MH	6	642.9	2.88671	-	-	-	-	PVC SDR26	new	18	-	0.12	2.9537	TRUE
new MH	6	5.6	0.05993	-	-	-	-	PVC SDR 35	new	8	-	0.70	0.8208	TRUE
new MH	6	648.5	2.90723	-	-	-	-	PVC SDR26	new	18	-	0.12	2.9537	TRUE
new MH	2	39.1	0.29314	15	0.15	2.0230	TRUE	HDPE SDR 21	slipline	12	15	0.12	0.3600	TRUE
new MH	2	687.6	3.04965	15	0.15	2.0230	FALSE	-	-	-	-	-	-	-

BEFORE YOU DIG OKIE 1-800-522-OKIE CALL OKIE

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JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

SANITARY SEWER
ORDINANCE FLOW CALCULATION

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

PLAN SCALE: N.A.	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.	(RJR)	11/2020
HORIZONTAL: N.A.	LEAD MGR.	AJS	11/20
	FIELD MGR.	KBW	11/20
VERTICAL: N.A.	RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED:

CITY ENGINEER

FILE: DRAWING:

DATE: 11/20/2020

ATLAS PAGE NO.: 35

SHEET 41 OF 69 SHEETS

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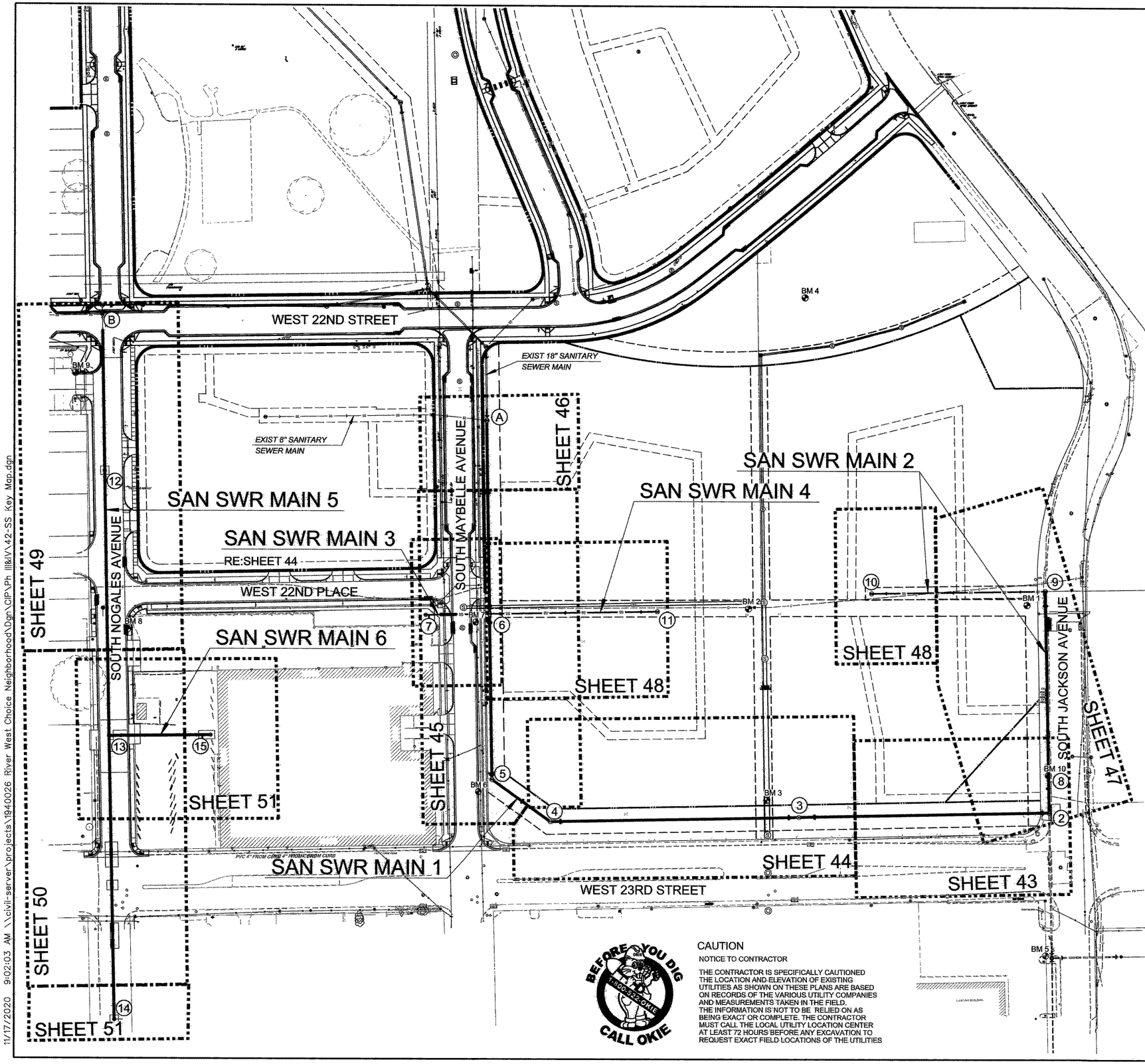

SEWER STRUCTURE LOCATION TABLE					
MH#	NORTHING	EASTING	RIM EL	FL	DESCRIPTION
MH 2	417419.71	2559211.59	638.89	613.28	PROPOSED 5' DIA MH (COT STD 356)
MH 3	417414.02	2558912.84	633.56	613.63	PROPOSED 5' DIA MH (COT STD 356)
MH 4	417408.21	2558616.33	635.39	613.98	PROPOSED 5' DIA MH (COT STD 356)
MH 5	417458.33	2558546.79	633.67	614.18	PROPOSED 5' DIA MH (COT STD 356)
MH 6	417655.79	2558543.76	632.24	614.51	PROPOSED 5' DIA DROP MH (COT STD 356)
MH A	417886.58	2558540.21	634.45	614.88	EXISTING 5' DIA DROP MH
MH 7	417654.50	2558465.48	633.49	618.12	PROPOSED 4' DIA MH (COT STD 356)
MH 8	417464.11	2559210.77	635.62	613.29	PROPOSED 5' DIA MH (COT STD 356)
MH 9	417684.53	2559207.09	630.91	613.73	PROPOSED 5' DIA DROP MH (COT STD 356)
MH 10	417681.11	2558999.58	632.52	624.63	PROPOSED 4' DIA MH (COT STD 356)
MH 11	417658.87	2558743.56	632.13	624.57	PROPOSED 4' DIA MH (COT STD 356)
MH B	418011.37	2558078.86	637.08	622.65	EXISTING 4' DIA DROP MH
MH 12	417825.57	2558081.99	636.41	623.38	PROPOSED 4' DIA MH (COT STD 356)
MH 13	417509.56	2558087.47	636.39	624.80	PROPOSED 4' DIA MH (COT STD 356)
MH 14	417170.98	2558093.87	635.80	626.40	PROPOSED 4' DIA MH (COT STD 356)
MH 15	417510.94	2558208.88	637.20	628.22	PROPOSED 4' DIA MH (COT STD 356)

THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON NAVD 88.
THE BEARINGS SHOWN HEREON ARE BASED ON THE OKLAHOMA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD83.

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60 0 30 60
1"=60' FULL SIZE
1"=120' HALF SIZE

CAUTION
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BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA
11/17/2020
OKLAHOMA CA #1460
EXP DATE 6/30/21

SANITARY SEWER LOCATION KEY MAP

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

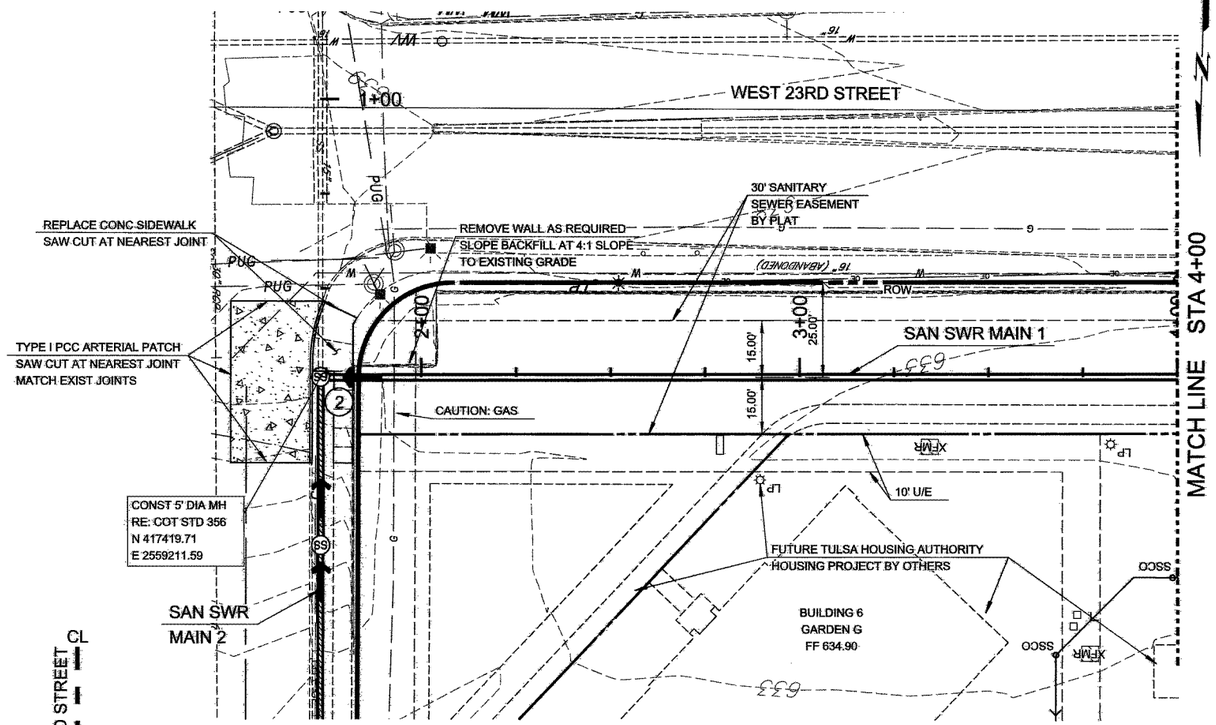
REVISION	BY	DATE

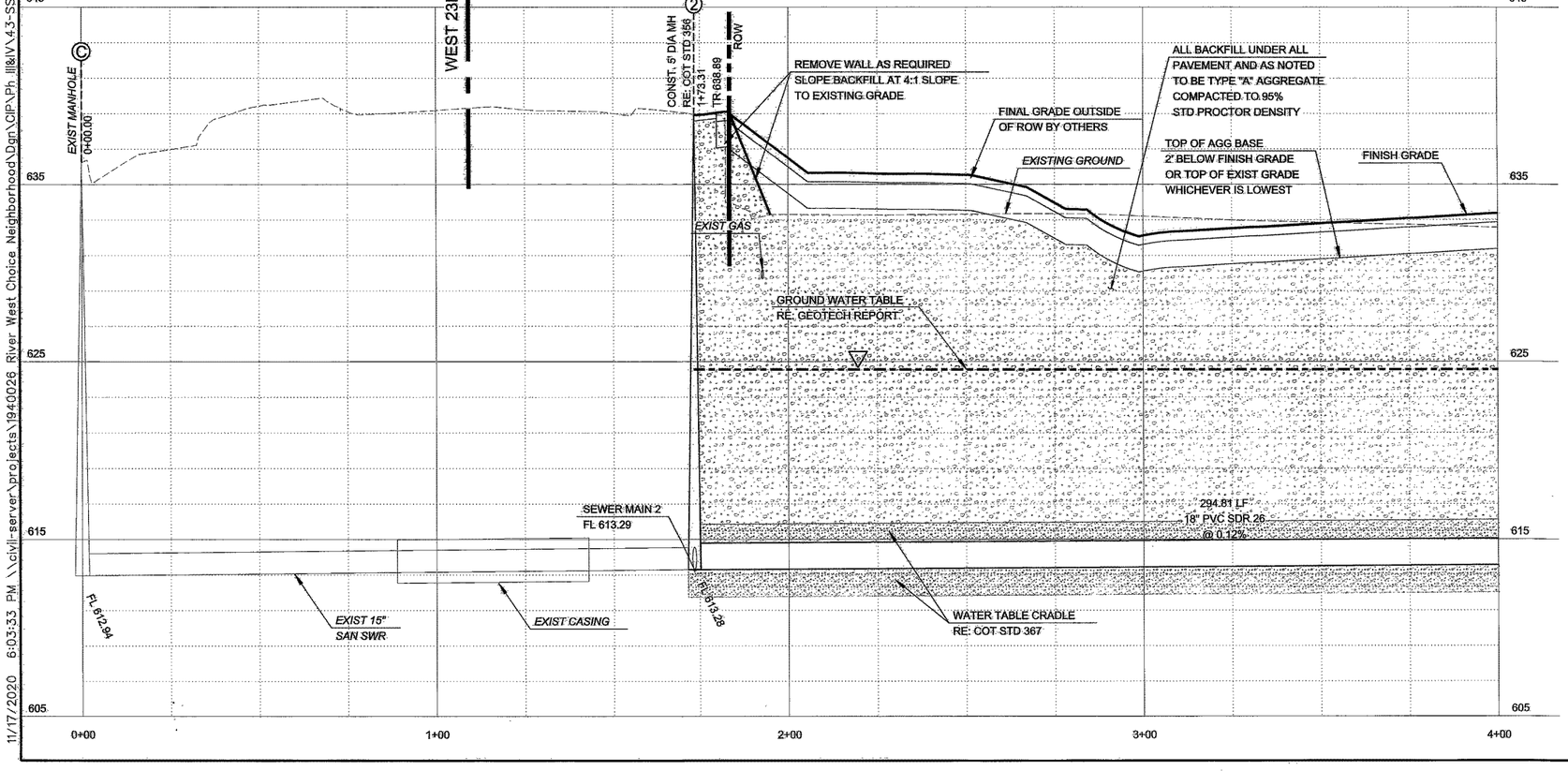
PLAN SCALE: 1"=60'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.		11/2020
HORIZONTAL: N.A.	LEAD MGR.		
VERTICAL: N.A.	FIELD MGR.		11/20
	RECOMMENDED: DESIGN MANAGER		11-20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 42 OF 69 SHEETS

11/17/2020 9:02:03 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\42-SS Key Map.dgn





20 0 10 20

1"=20' FULL SIZE
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MINIMUM TRENCH WIDTH FOR PVC SANITARY SEWER INSTALLED BELOW GROUNDWATER LEVEL WITH WATER TABLE CRADLE PER COT STD. 367	
PIPE I.D.	MIN TRENCH WIDTH & EXCAVATION PAY WIDTH
8-12"	3'-0"
14"-18"	4'-6"

BENCHMARK 5
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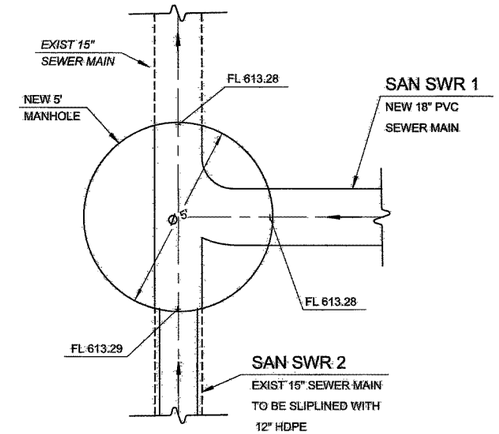

2 INVERT DETAIL - MANHOLE 2
SCALE: 1" = 2'

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA
11/17/2020

OKLAHOMA CA #1480
EXP DATE 6/30/21

SANITARY SEWER MAIN 1
STA 0+00.00 TO STA 4+00.00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
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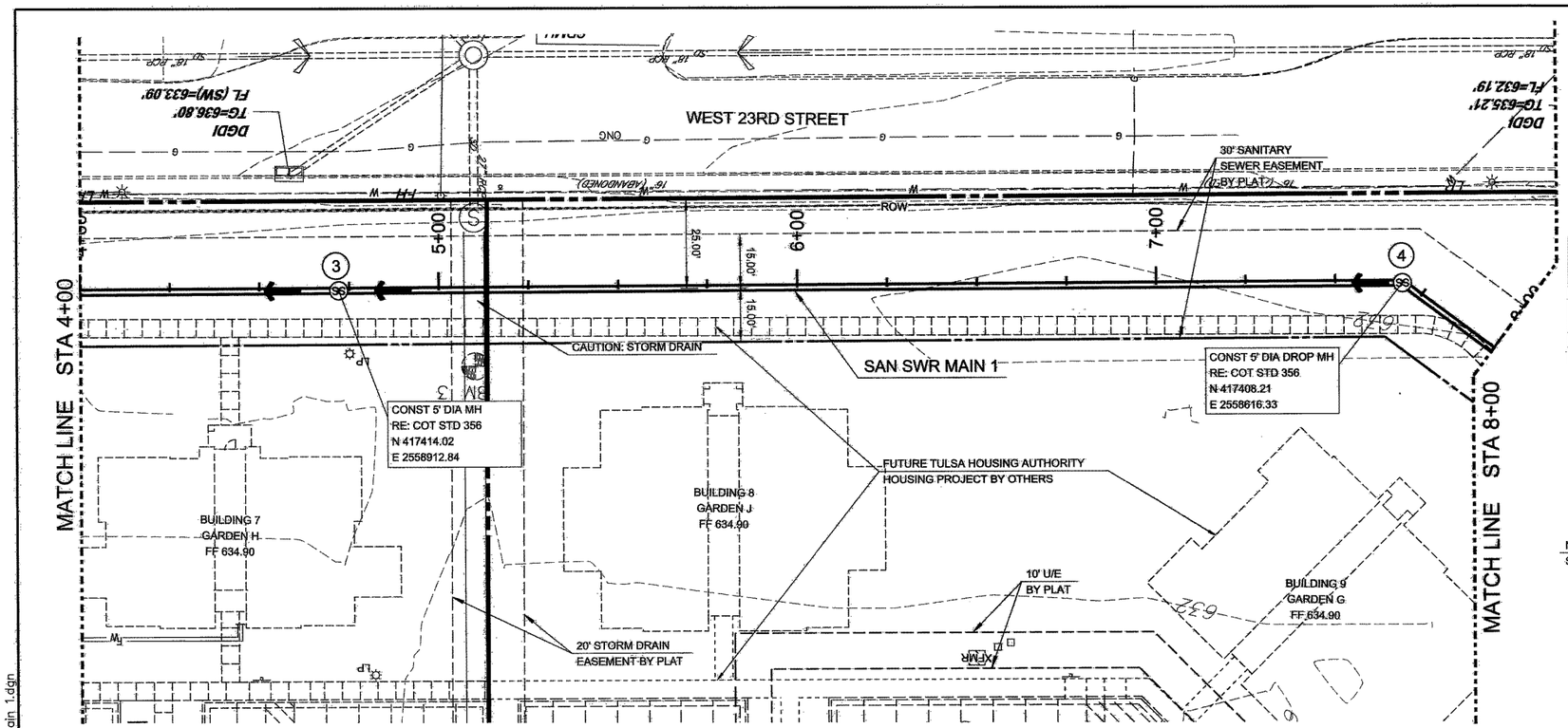
REVISION:	BY	DATE

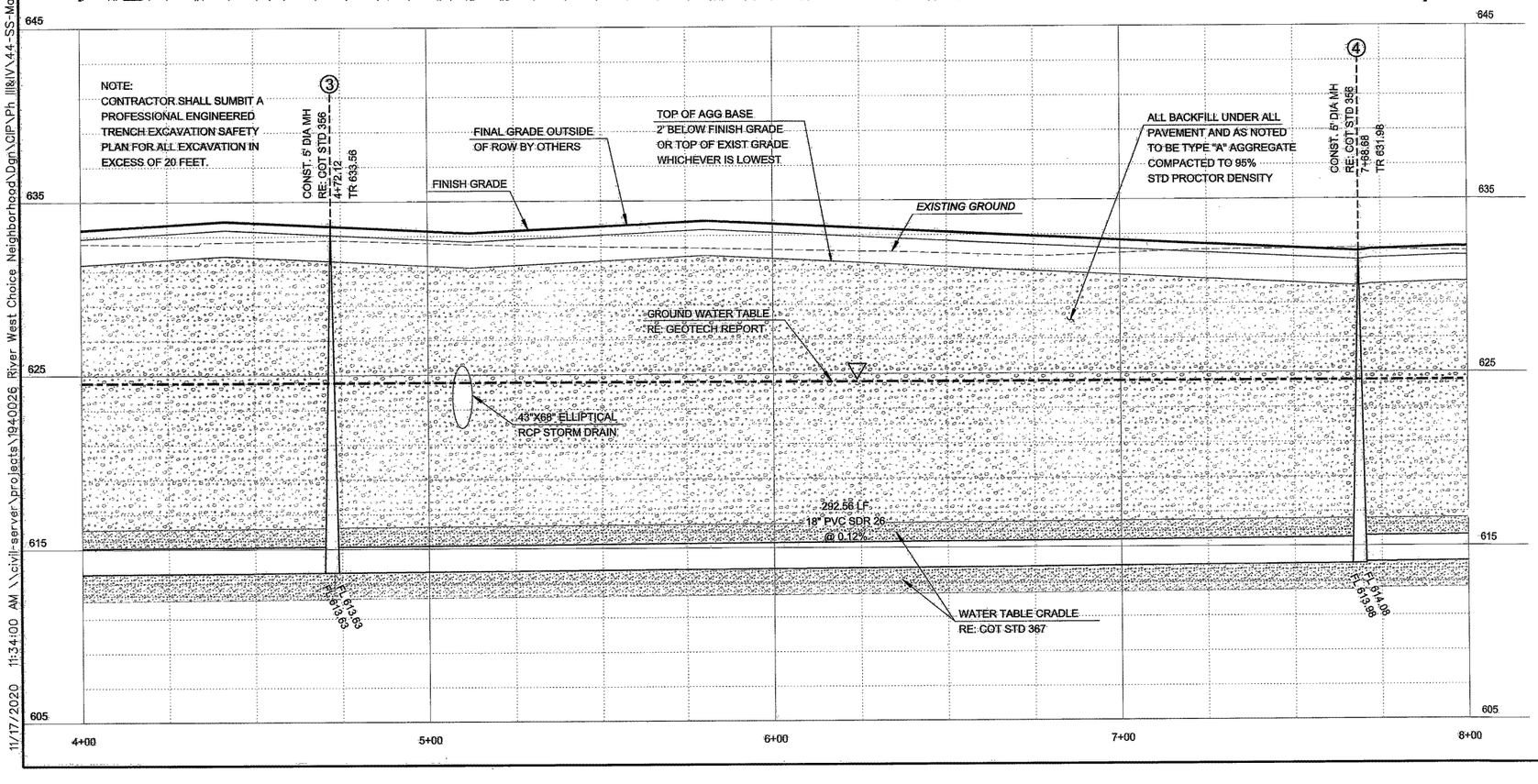
PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR.	[illegible]	11/2020
HORIZONTAL: 1"=20'-0"	LEAD MGR.	RDJ	11/20
	FIELD MGR.	[illegible]	11/20
VERTICAL: 1"=4'-0"	RECOMMENDED: DESIGN MANAGER	HAS	11.20

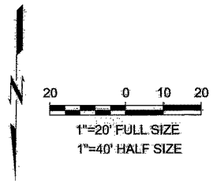
APPROVED:
CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 43 OF 69 SHEETS

11/17/2020 6:03:33 PM \\civil-server\projects\19400026 River West Choice Neighborhood\Dgn\CIP\Ph. III&IV\4.3-SS-Main 1.dgn









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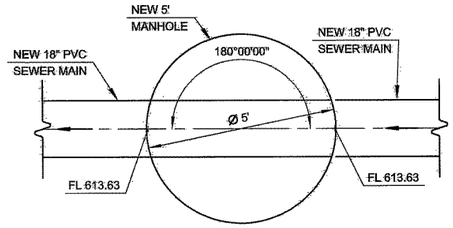
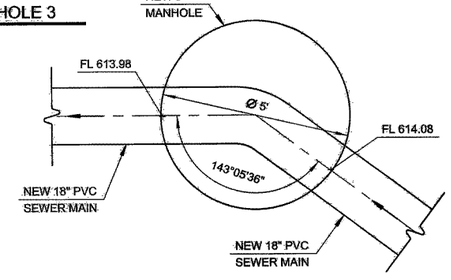


3 INVERT DETAIL - MANHOLE 3
SCALE: 1" = 2'



4 INVERT DETAIL - MANHOLE 4
SCALE: 1" = 2'

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA
11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

SANITARY SEWER MAIN 1
STA 4+00.00 TO STA 8+00.00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5868

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"	DRAWN:	MDE	11/20/20
	DESIGNED:	JR	11/20/20
	SURVEY:	ARJ	11/20/20
PROFILE SCALE:	PROJ MGR:		11/2020
HORIZONTAL: 1"=20'-0"	LEAD MGR:	RDS	11/20
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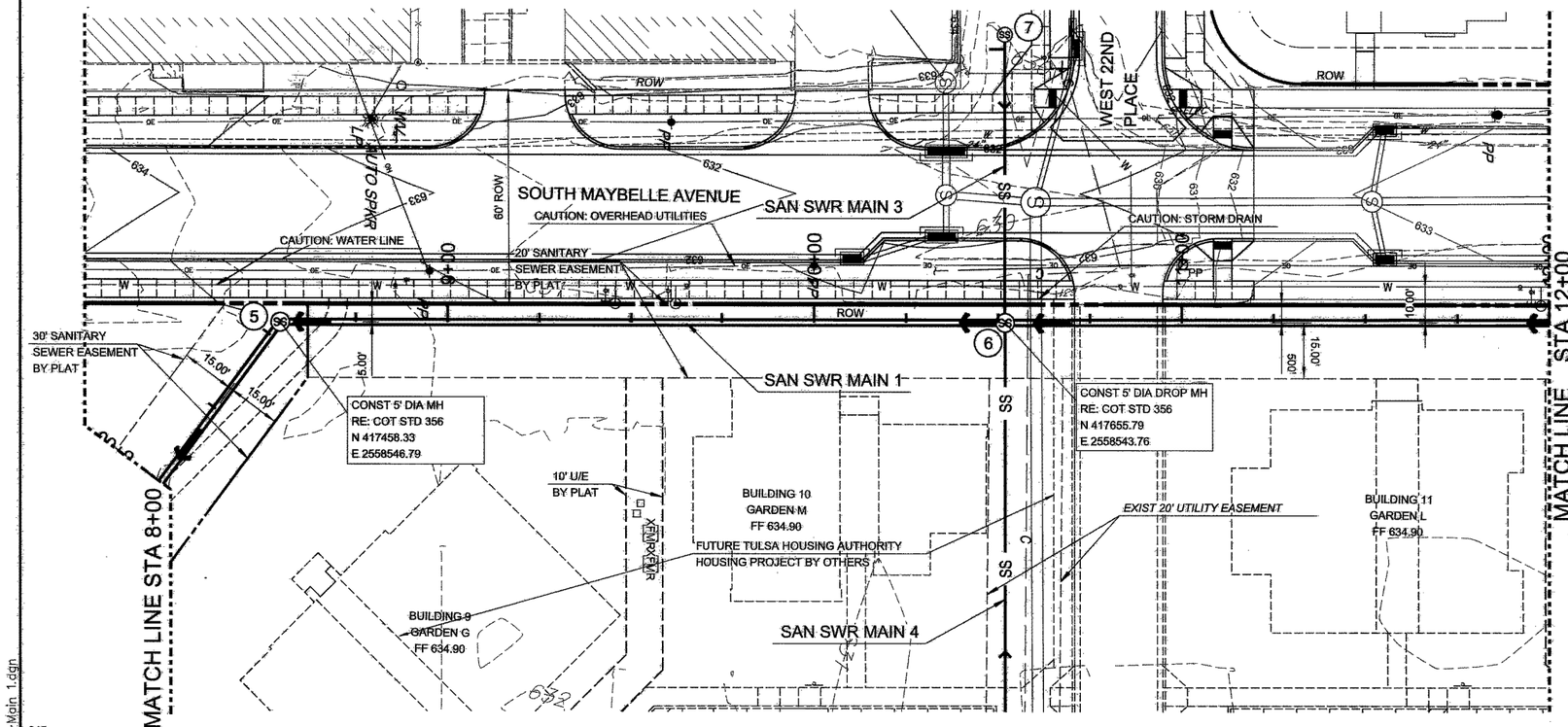
VERTICAL: 1"=4'-0"	RECOMMENDED: DESIGN MANAGER		11.20

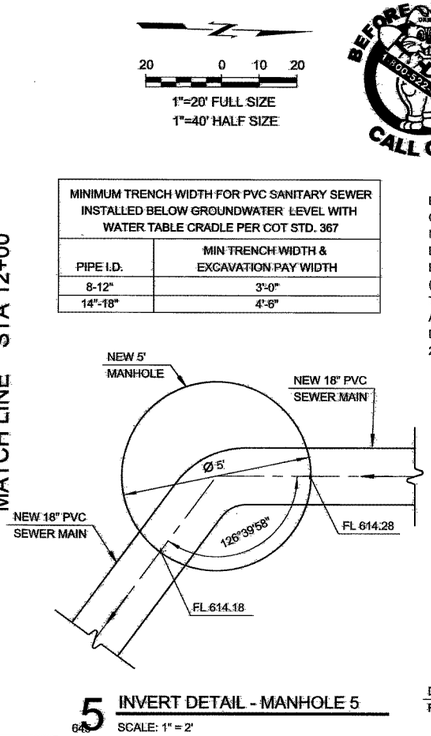
APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 44 OF 69 SHEETS

11/17/2020 11:34:00 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\OIP\Ph III&IV\44-SS-Main 1.dgn





20 0 10 20

1"=20' FULL SIZE
1"=40' HALF SIZE

BEFORE YOU DIG
1-800-522-OKIE
CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

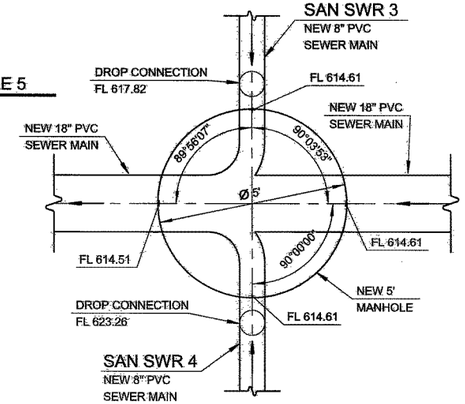
MINIMUM TRENCH WIDTH FOR PVC SANITARY SEWER INSTALLED BELOW GROUNDWATER LEVEL WITH WATER TABLE CRADLE PER COT STD. 367	
PIPE I.D.	MIN TRENCH WIDTH & EXCAVATION PAY WIDTH
8-12"	3'-0"
14"-18"	4'-6"

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

5 INVERT DETAIL - MANHOLE 5

SCALE: 1" = 2'



6 INVERT DETAIL - MANHOLE 6

SCALE: 1" = 2'

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

SANITARY SEWER MAIN 1
STA 8+00.00 TO STA 12+00.00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

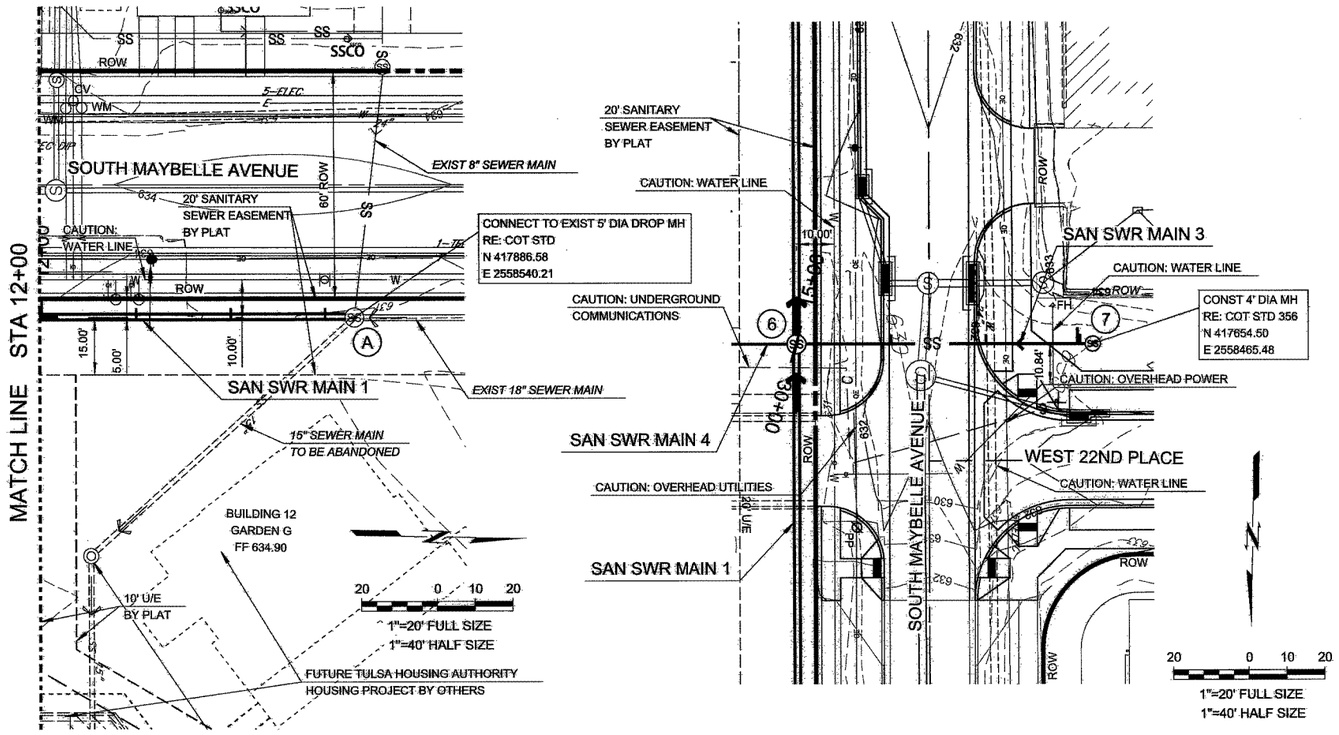
PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=4'-0"	PROJ. MGR.		11/2020
	LEAD MGR.		11/20
	FIELD MGR.		11/20
	RECOMMENDED: DESIGN MANAGER	HM	11-20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 45 OF 69 SHEETS

11/17/2020 6:04:54 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\45-SS-Main 1.dgn



CAUTION

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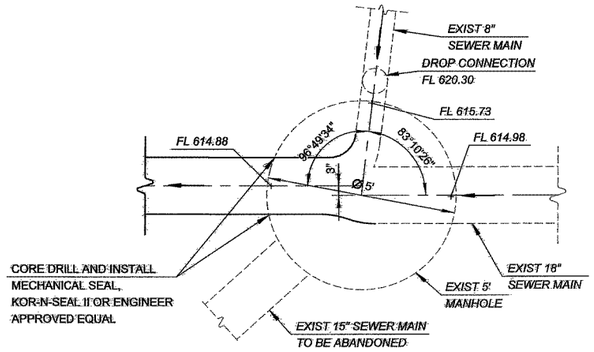
MINIMUM TRENCH WIDTH FOR PVC SANITARY SEWER INSTALLED BELOW GROUNDWATER LEVEL WITH WATER TABLE CRADLE PER COT STD. 367	
PIPE I.D.	MIN TRENCH WIDTH & EXCAVATION PAY WIDTH
8-12"	3'-0"
14"-18"	4'-6"

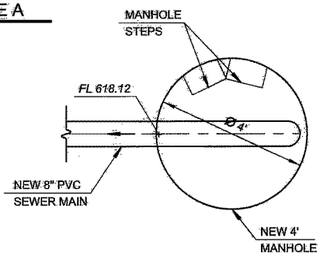
BENCHMARK 2
CHISELED SQUARE
N: 417662.539
E: 2558852.597
ELEV: 631.175
(LOCATED ON THE SIDEWALK MIDWAY BETWEEN S MAYBELLE AVE AND S JACKSON AVE IN LINE WITH W 22ND PL)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)



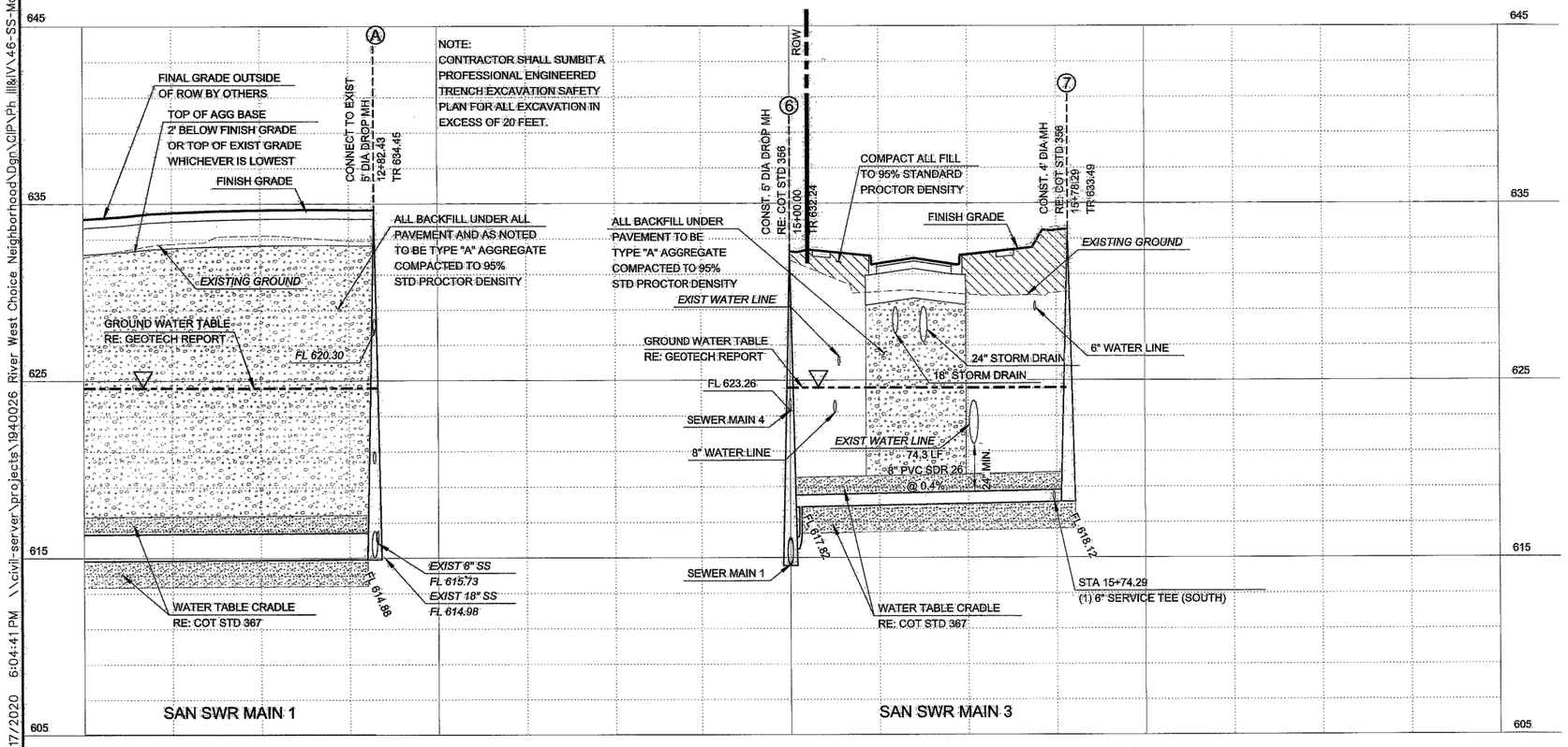
7 INVERT DETAIL - MANHOLE A

SCALE: 1" = 2'



8 INVERT DETAIL - MANHOLE 7

SCALE: 1" = 2'



JORDAN RODICH 28548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA
11/17/2020
OKLAHOMA CA #1460 EXP DATE 6/30/21

SAN SWR 1 STA 12+00 TO STA 12+82.43
SAN SWR 3 STA 15+00 TO STA 15+78.29

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

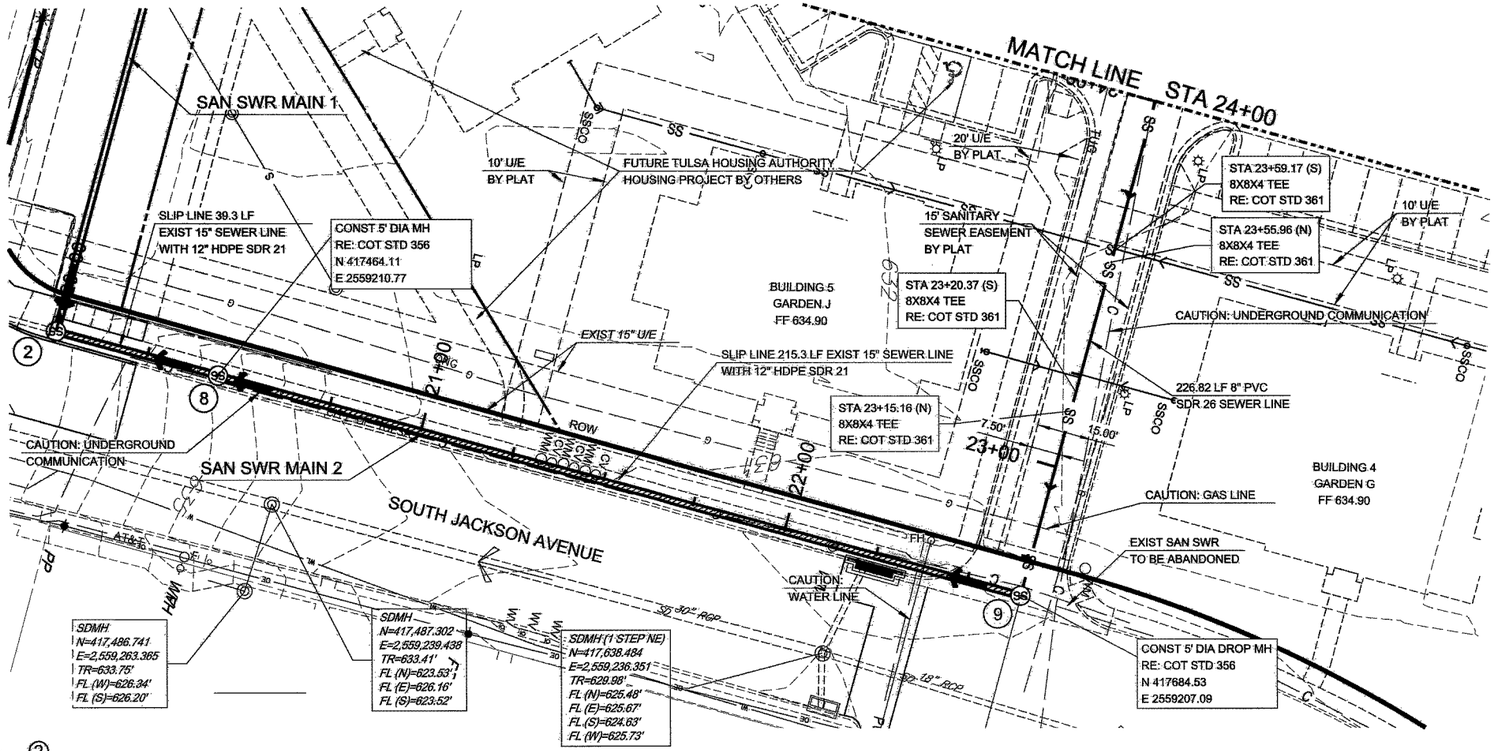
PLAN SCALE: 1"=20'-0"
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=4'-0"

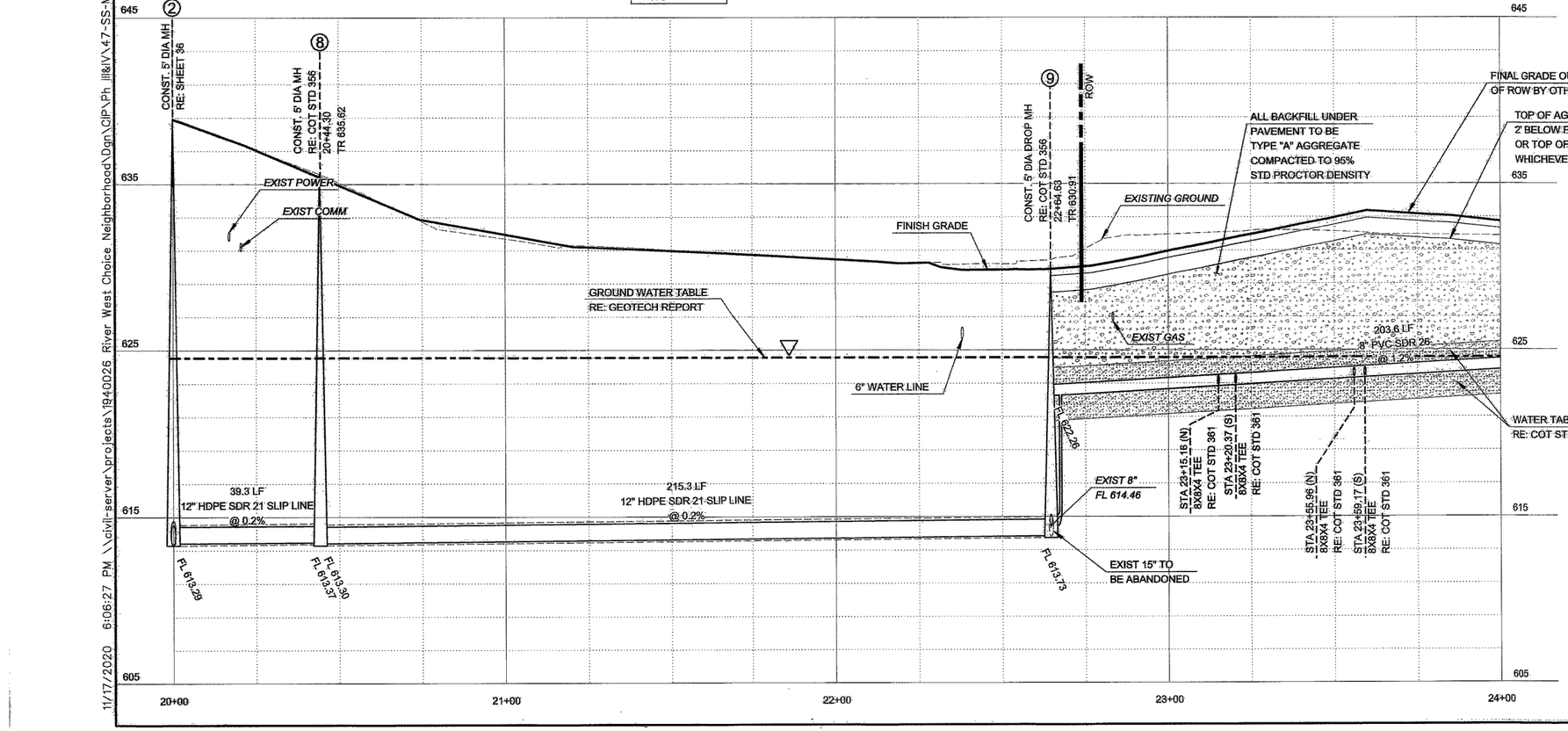
DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ. MGR.	[illegible]	11/2020
LEAD MGR.	ADJ	11/20
FIELD MGR.	[illegible]	11/20
RECOMMENDED: DESIGN MANAGER	[illegible]	11.20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 48 OF 69 SHEETS

11/17/2020 6:04:41 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph. III&IV\46-SS-Main 1.dgn





20 0 10 20

1"=20' FULL SIZE
1"=40' HALF SIZE

BEFORE YOU DIG
800-522-OKIE
CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

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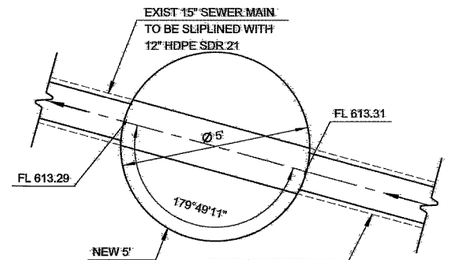
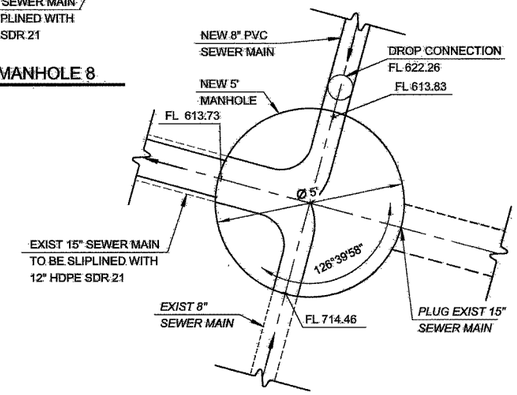
MINIMUM TRENCH WIDTH FOR PVC SANITARY SEWER INSTALLED BELOW GROUNDWATER LEVEL WITH WATER TABLE CRADLE PER COT STD. 367	
PIPE I.D.	MIN TRENCH WIDTH & EXCAVATION PAY WIDTH
8-12"	3'-0"
14"-18"	4'-6"

BENCHMARK 1
CHISELED SQUARE
N: 417667.574
E: 2559185.253
ELEV: 631.551
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

BENCHMARK 10
SSMH LID
N: 417464.378
E: 2559210.585
ELEV: 635.450
(LOCATED ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)



9 INVERT DETAIL - MANHOLE 8
SCALE: 1" = 2'



10 INVERT DETAIL - MANHOLE 9
SCALE: 1" = 2'

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA
11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

SANITARY SEWER MAIN 2
STA 20+00.00 TO STA 24+00.00

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK.74103
(918) 584-5858

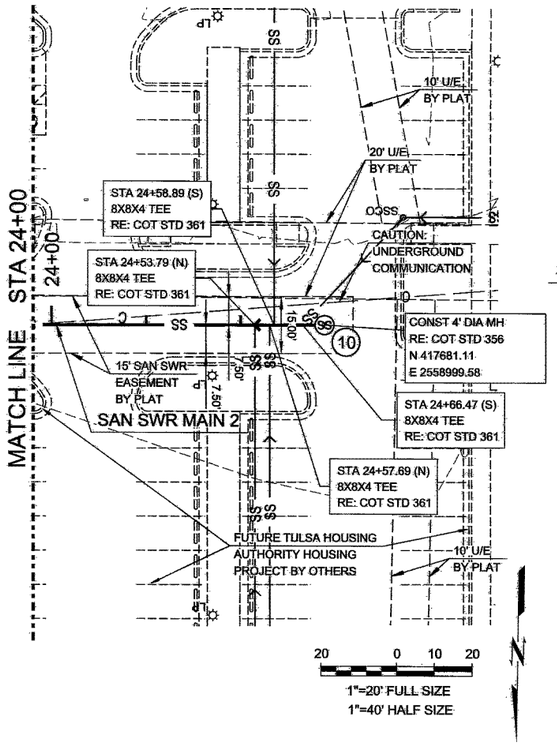
REVISION	BY	DATE

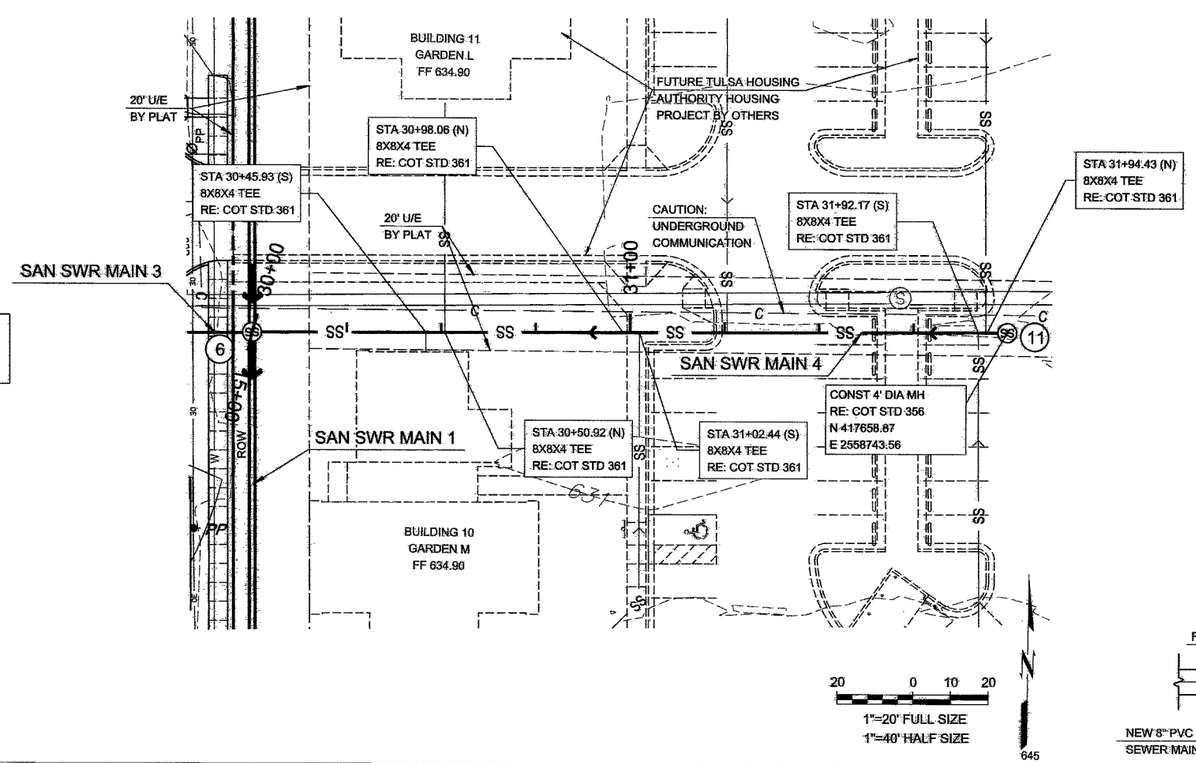
PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL: 1"=20'-0"	LEAD MGR.	ADS	11/20
VERTICAL: 1"=4'-0"	FIELD MGR:		
	RECOMMENDED: DESIGN MANAGER		

APPROVED:
CITY ENGINEER
DATE: 11/20/2020

FILE: DRAWING:
ATLAS PAGE NO.: 35
SHEET 47 OF 69 SHEETS

11/17/2020 6:06:27 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\47-SS-Main 2.dgn







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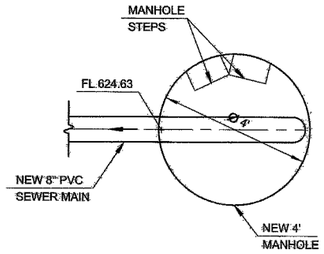
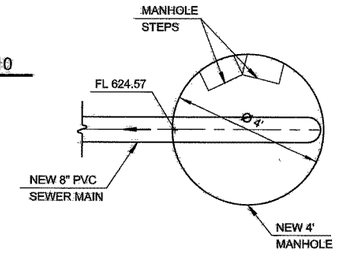
BENCHMARK 1	BENCHMARK 10
CHISELED SQUARE	SSMH LID
N: 417667.574	N: 417464.378
E: 2559185.253	E: 2559210.585
ELEV: 631.551	ELEV: 635.450
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)	(LOCATED ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

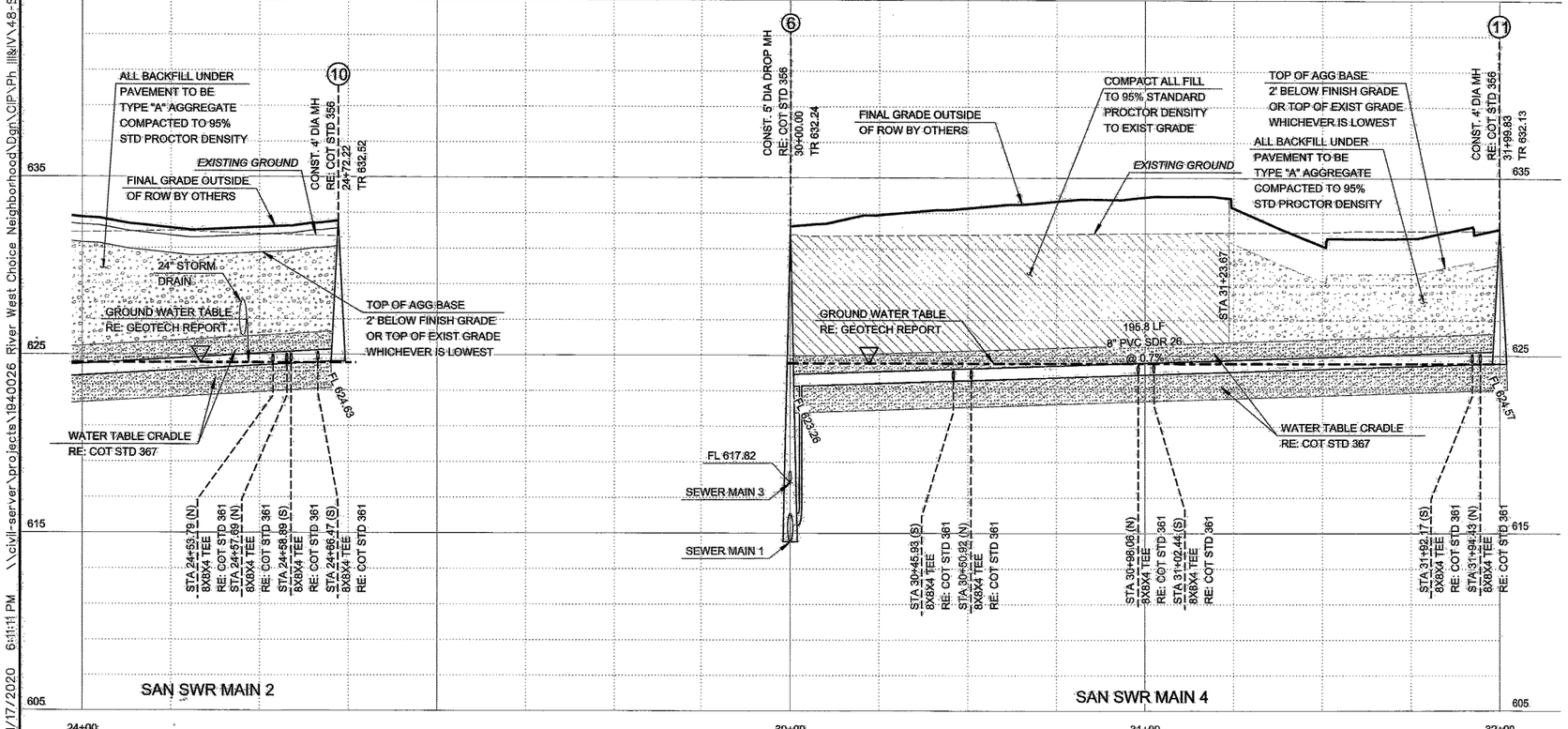
MINIMUM TRENCH WIDTH FOR PVC SANITARY SEWER INSTALLED BELOW GROUNDWATER LEVEL WITH WATER TABLE CRADLE PER COT STD. 367	
PIPE I.D.	MIN TRENCH WIDTH & EXCAVATION PAY WIDTH
8-12"	3'-0"
14"-18"	4'-6"



11 INVERT DETAIL - MANHOLE 10
SCALE: 1" = 2'



12 INVERT DETAIL - MANHOLE 11
SCALE: 1" = 2'





11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

SAN SWR 2 STA 24+00 TO STA 24+72.22
SAN SWR 4 STA 30+00 TO STA 31+99.83

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.		11/20/20
HORIZONTAL: 1"=20'-0"	LEAD MGR.	ARJ	11/20/20
	FIELD MGR.		11/20/20
VERTICAL: 1"=4'-0"	RECOMMENDED: DESIGN MANAGER		11-20

APPROVED:
CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 48 OF 69 SHEETS

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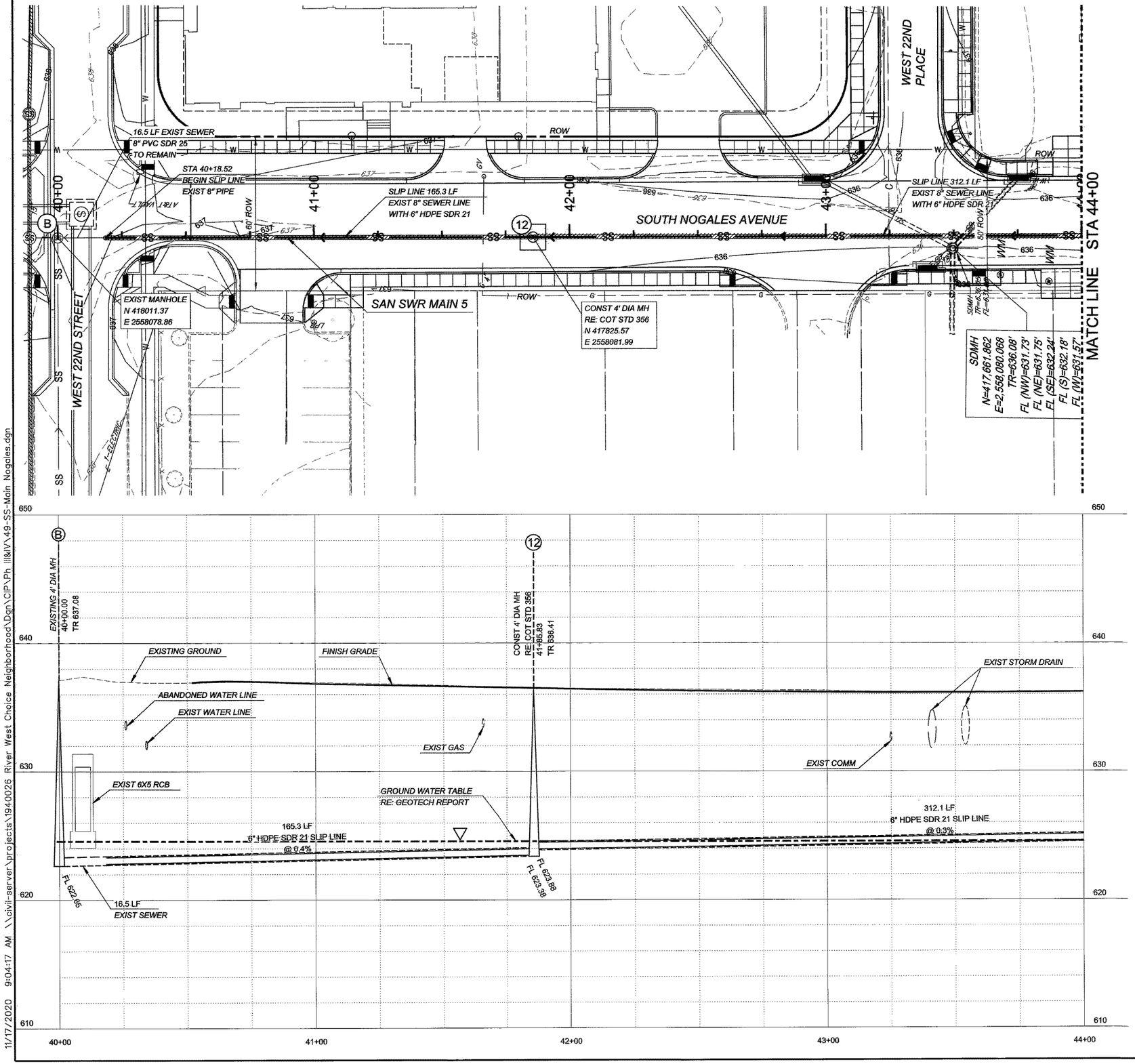

20 0 10 20

1"=20' FULL SIZE
1"=40' HALF SIZE

BEFORE YOU DIG 1800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

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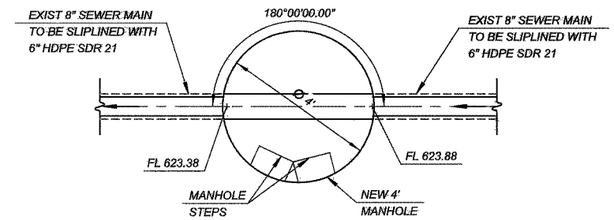
BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)



13 INVERT DETAIL - MANHOLE 12

SCALE: 1" = 2'

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

SANITARY SEWER MAIN 5
STA 40+00.00 TO STA 44+00.00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE:
HORIZONTAL: 1"=20'-0"
VERTICAL: 1"=4'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/20/2020
LEAD MGR.	ADJ	11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED: CITY ENGINEER

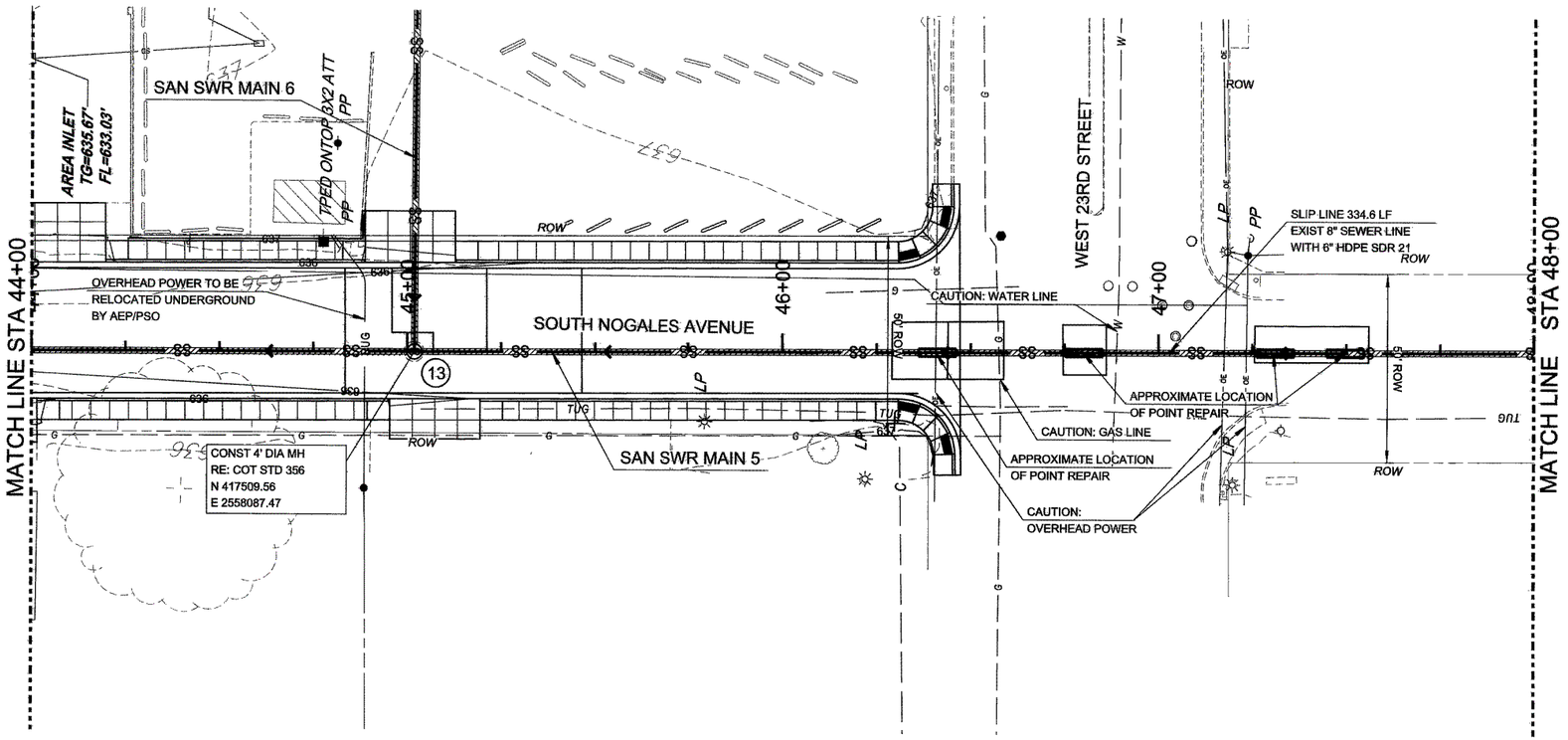
FILE: DRAWING:

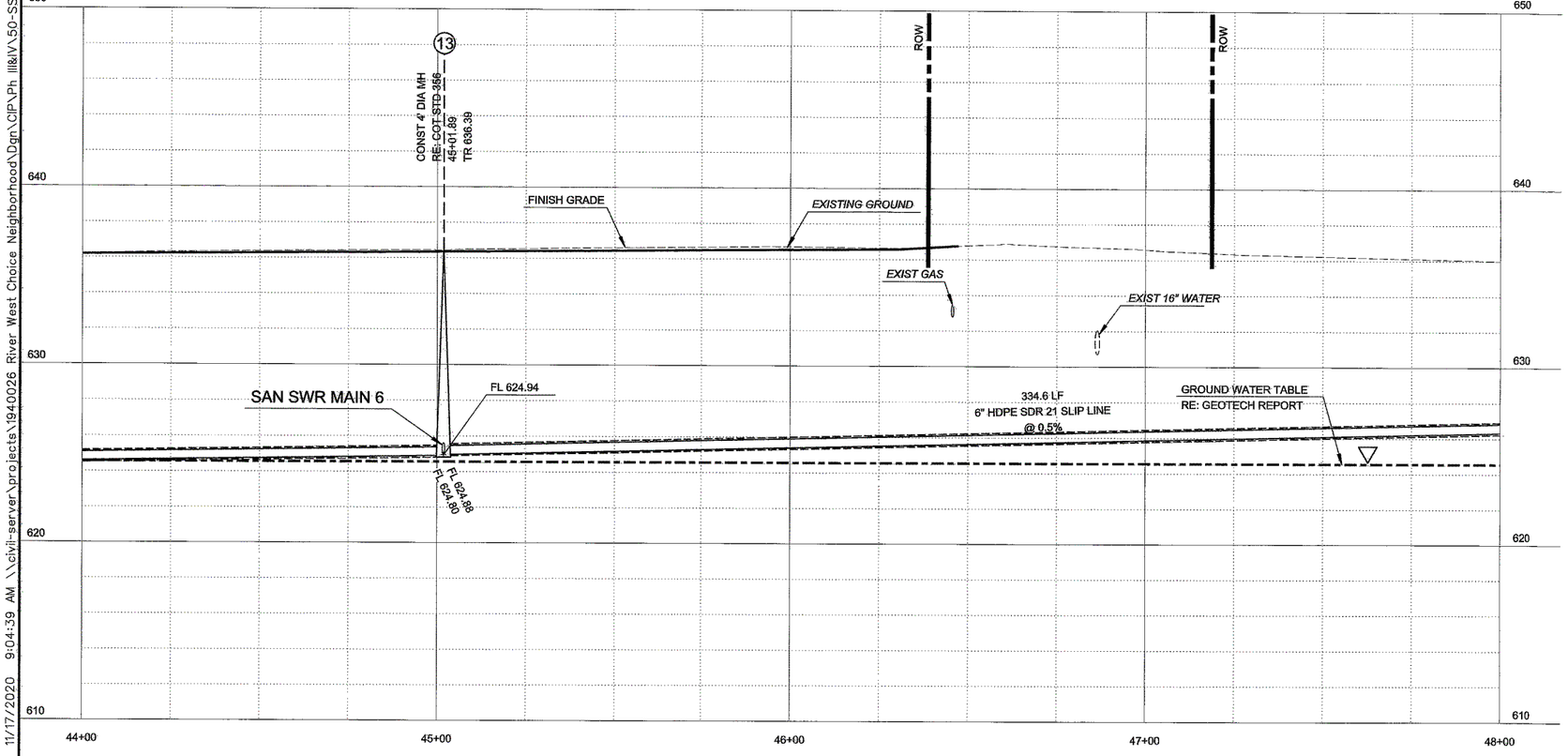
DATE: 11/20/2020

ATLAS PAGE NO.: 35

SHEET 49 OF 69 SHEETS

11/17/2020 9:04:17 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\49-SS-Main Nogales.dgn





20 0 10 20

1"=20' FULL SIZE
1"=40' HALF SIZE

CAUTION

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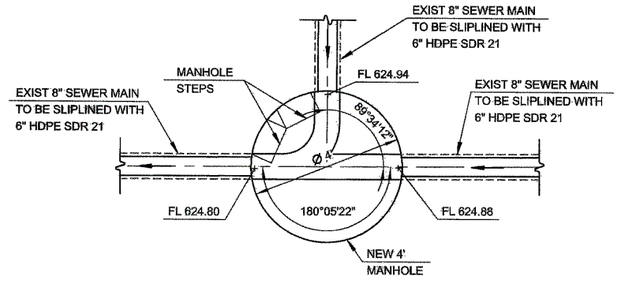
BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)



14 INVERT DETAIL - MANHOLE 13

SCALE: 1" = 2'

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

SANITARY SEWER MAIN 5
STA 44+00.00 TO STA 48+00.00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

PLAN SCALE: 1"=20'-0"	DRAWN	MDE	11/20/20
	DESIGNED	JR	11/20/20
	SURVEY	ARJ	11/20/20
PROFILE SCALE:	PROJ.MGR.		11/2020
HORIZONTAL:	LEAD MGR.	ADJ	11/20
1"=20'-0"	FIELD MGR.		11/20
VERTICAL:	RECOMMENDED		
1"=4'-0"	DESIGN MANAGER	HAS	11.20

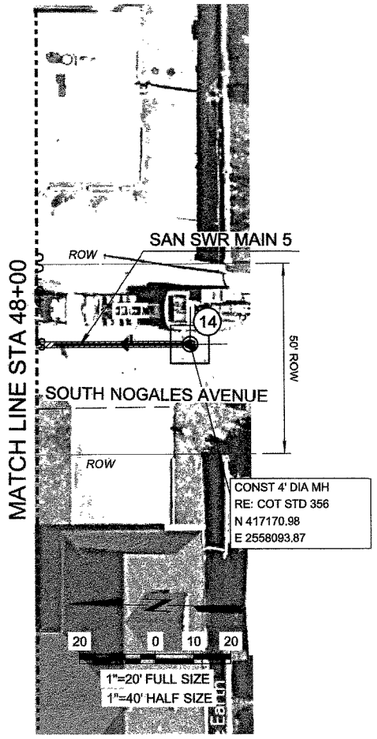
APPROVED:

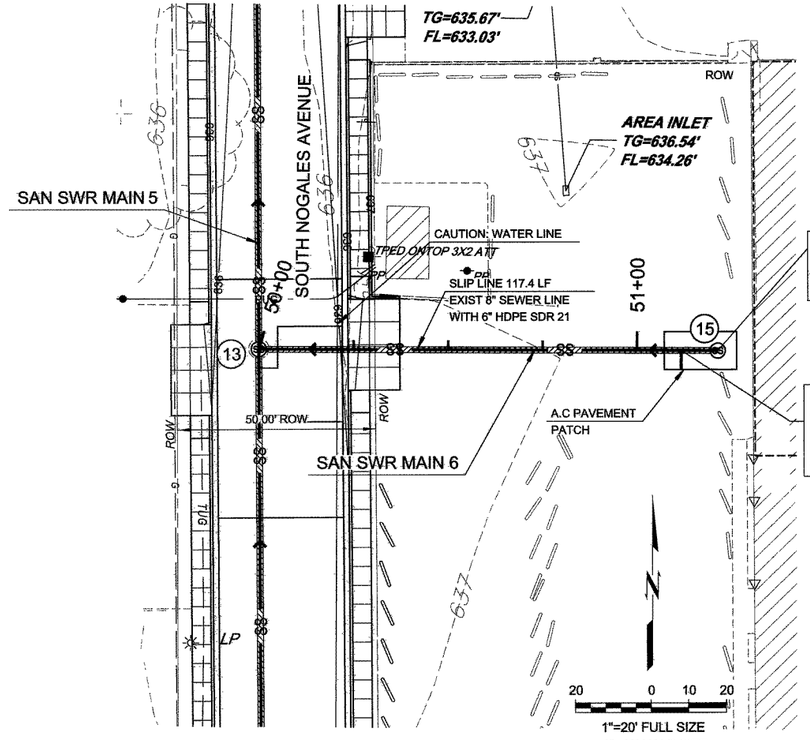
CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 50 OF 69 SHEETS

11/17/2020 9:04:39 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\50-SS-Main Nogales.dgn





CAUTION

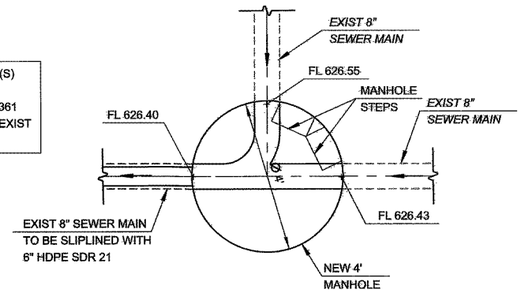
NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

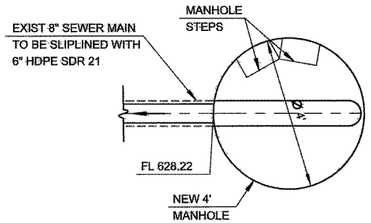
BEFORE YOU DIG 1800 522 OKIE CALL OKIE

BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

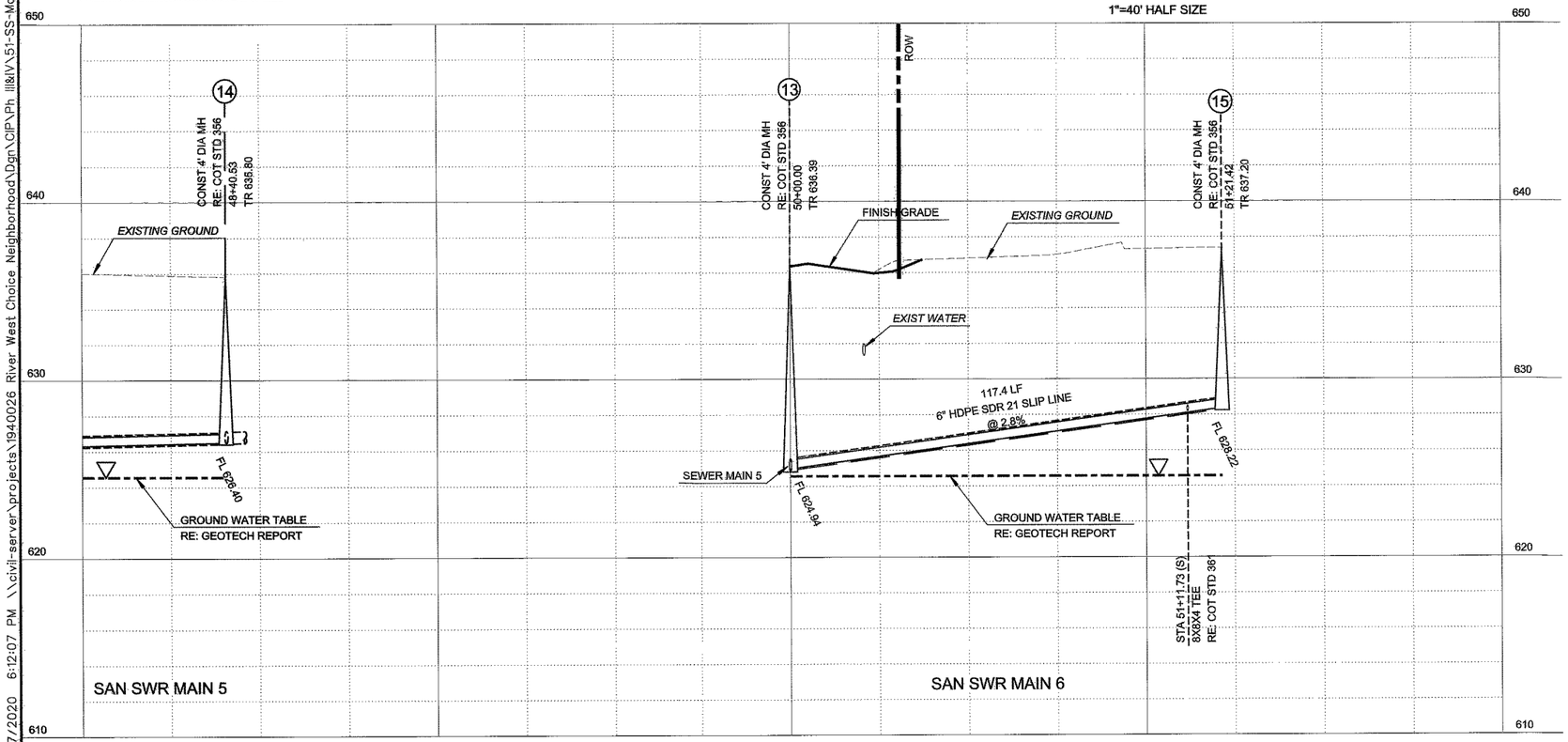
BENCHMARK 9
CHISELED SQUARE
N: 417941.902
E: 2558046.931
ELEV: 637.569
(LOCATED ON THE NORTH CURB OF THE DRIVEWAY AT S NOGALES AVE AND W 22ND ST)



15 INVERT DETAIL - MANHOLE 14
SCALE: 1" = 2'



16 INVERT DETAIL - MANHOLE 15
SCALE: 1" = 2'



SAN SWR 5 STA 48+00 TO STA 48+40.53
SAN SWR 6 STA 50+00 TO STA 51+24.42

RIVER WEST CNI PUBLIC IMPROVEMENT
CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858
OKLAHOMA CA #1460
EXP DATE 6/30/21

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE:
HORIZONTAL: 1"=20'-0"
VERTICAL: 1"=4'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ.MGR.		11/2020
LEAD MGR.	ADJ	11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER	HMS	11-20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 51 OF 69 SHEETS

11/17/2020 6:12:07 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\51-SS-Main Noggles.dgn

11/17/2020 9:26:32 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\52-Water Main Key Map.dgn

SOUTH MAYBELLE AVENUE

SOUTH JACKSON AVENUE

WEST 22ND STREET

SOUTH NOGALES AVENUE

WEST 22ND PLACE

SOUTH MAYBELLE AVENUE

WEST 23RD STREET

WATER LINE 1

WATER LINE 2

SHEET 53

SHEET 54

SHEET 55

909 W. 23RD ST.

FIRE HYDRANT 1

RE: SHEET 55

R 300.00'

NOTE:
THE PROPOSED FIRE HYDRANT SPACING PROVIDES COVERAGE FOR THE FUTURE STRUCTURES IN THE PLAN SETS OF RIVER WEST CNI HOUSING DESIGN PHASE 2, PHASE 3 AND PHASE 4.

60 0 .0 630

1"=60' FULL SIZE
1"=120' HALF SIZE

BEFORE YOU DIG OKIE 811 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 28548 OKLAHOMA

11/17/2020

OKLAHOMA CA #1460
EXP DATE 6/30/21

WATER LINE LOCATION KEY MAP

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=60'-0"
PROFILE SCALE:
HORIZONTAL: N.A.
VERTICAL: N.A.

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ.MGR.	[illegible]	11/20/20
LEAD MGR.	[illegible]	11/20
FIELD MGR.	[illegible]	11/20
RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED:

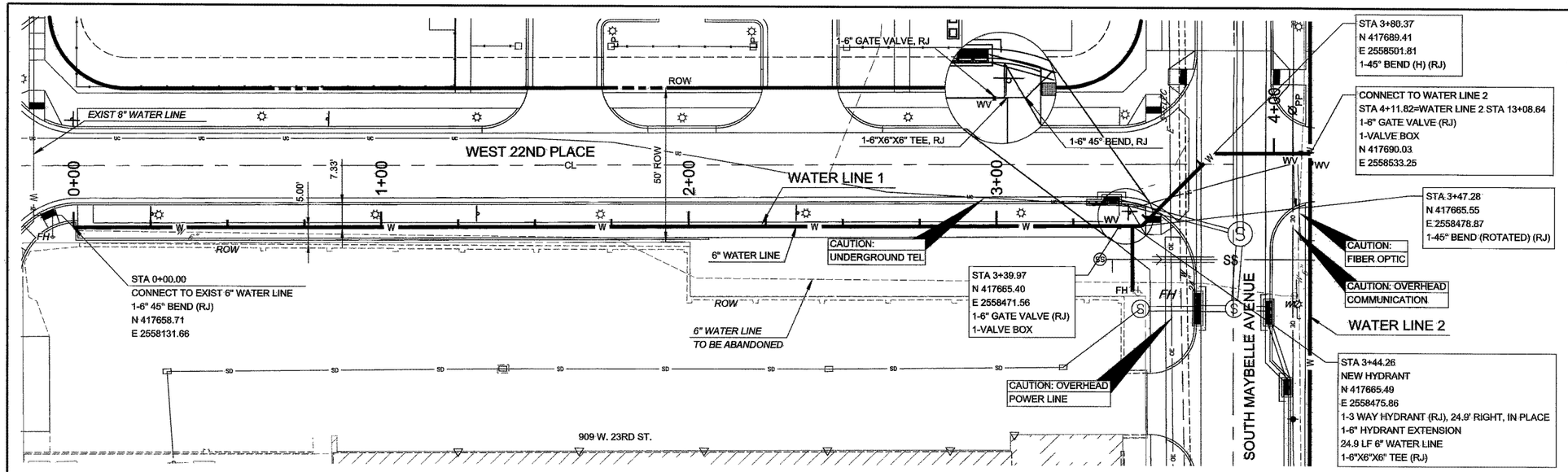
CITY ENGINEER

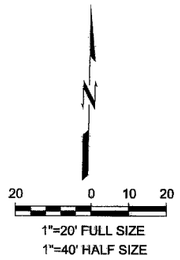
FILE: DRAWING:

DATE: 11/20/2020

ATLAS PAGE NO.: 35

SHEET 52 OF 69 SHEETS





BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

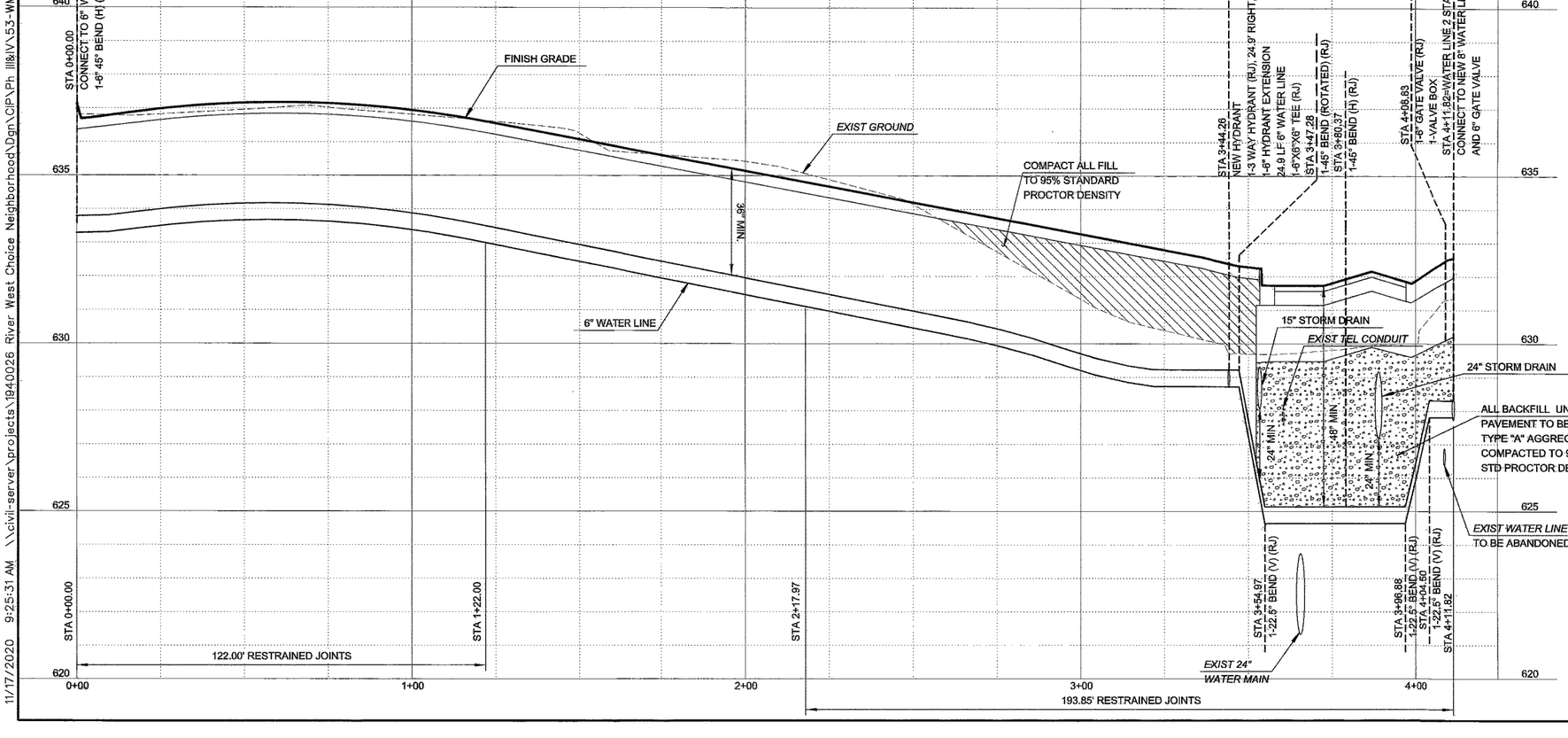
BENCHMARK 8
CHISELED SQUARE
N: 417636.686
E: 2558109.458
ELEV: 636.239
(LOCATED ON THE CURB AT THE SOUTHEAST CURB INLET AT W 22ND PL/S NOGALES AVE)

NOTE:
ALL VALVES AND FIRE HYDRANTS SHALL BE INSTALLED ON LEVEL SECTION OF PIPE. MAXIMUM PIPE DEFLECTION HORIZONTAL OR VERTICAL SHALL BE 1°30' PER JOINT. THE DEFLECTION NOTED SHALL BE EVENLY SPACED OVER THE STATIONS SHOWN.

SUMMARY TABLE

(2) 6" GATE VALVE, RJ & VALVE BOX
(1) VALVE BOX EXTENSION
(1) 6"X6"X6" TEE, RJ
(1) 3 WAY FIRE HYDRANT, RJ, IN PLACE
(1) 6" FIRE HYDRANT EXTENSION
(3) 6" 45° BEND, RJ
(3) 6" 22.5° BEND, RJ

NOTE:
FURNISHED BY CONTRACTOR - INSTALLED BY CONTRACTOR
ALL VALVES SHALL BE INSTALLED ON LEVEL SECTION OF PIPE



CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA
11/17/2020
OKLAHOMA CA #1480
EXP DATE 6/30/21

WATER LINE 1 PLAN AND PROFILE STA 0+00 TO 4+11.82

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

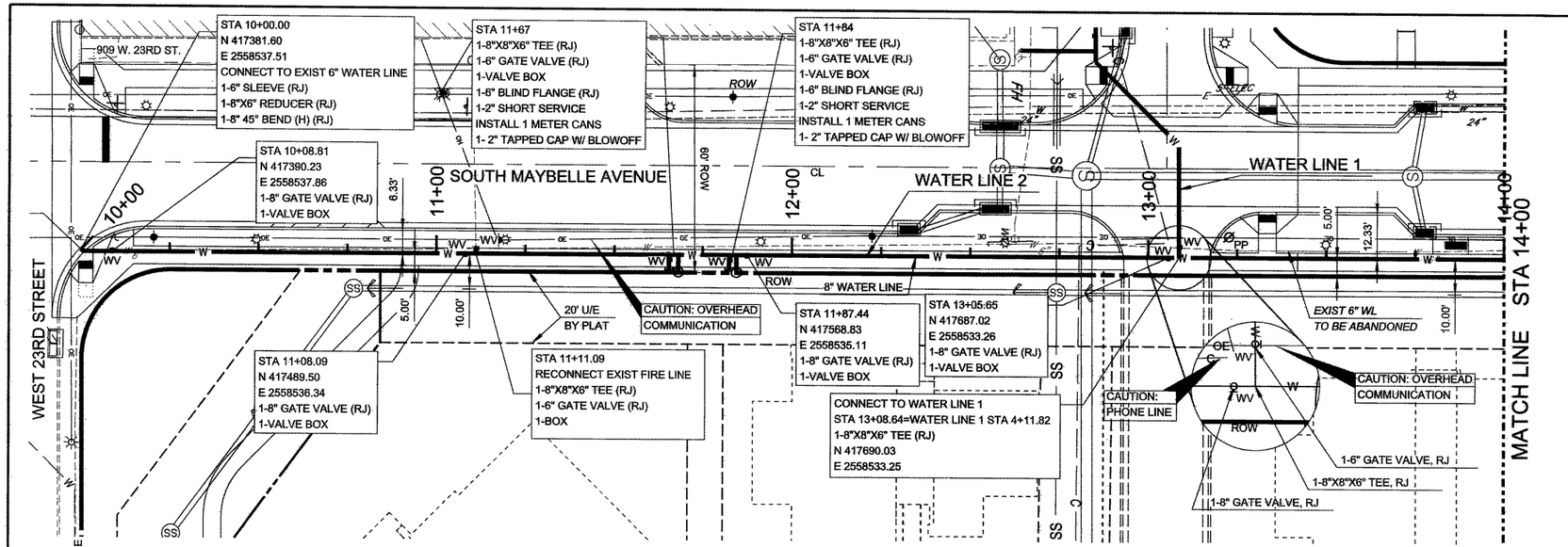
PLAN SCALE: 1"=20'-0"
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=2'-0"

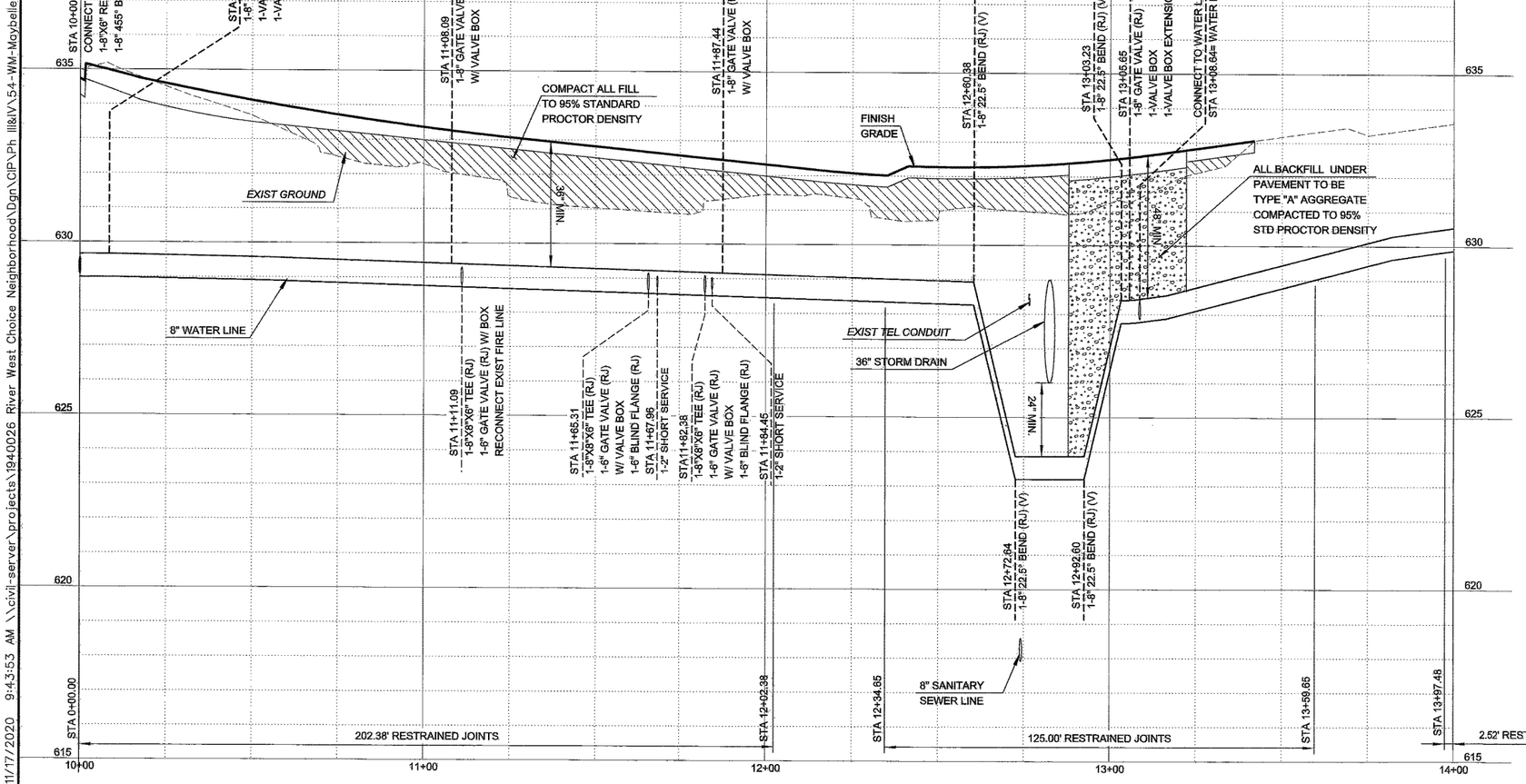
DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/20/20
LEAD MGR.		11/20/20
FIELD MGR.		11/20/20
RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 53 OF 69 SHEETS

11/17/2020 9:25:31 AM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\53-WM-22nd Pl.dgn





20 0 10 20

1"=20' FULL SIZE
1"=40' HALF SIZE

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E: 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

NOTE:
ALL VALVES AND FIRE HYDRANTS SHALL BE INSTALLED ON LEVEL SECTION OF PIPE. MAXIMUM PIPE DEFLECTION HORIZONTAL OR VERTICAL SHALL BE 1°30' PER JOINT. THE DEFLECTION NOTED SHALL BE EVENLY SPACED OVER THE STATIONS SHOWN.

SUMMARY TABLE

- (4) 8" GATE VALVE, RJ & VALVE BOX
- (3) 6" GATE VALVE, RJ & VALVE BOX
- (2) VALVE BOX EXTENSION
- (4) 8"X8"X6" TEE, RJ
- (4) 8" 22.5° BEND, RJ
- (1) 8" 45° BEND, RJ
- (1) 8"x6" REDUCER, RJ
- (1) 6" SLEEVE, RJ
- (2) 6" BLIND FLANGE, RJ
- (2) 2" SHORT SERVICE
- (2) METER CAN FOR 2" METER
- (2) 2" TAPPED CAP W/ BLOWOFF

NOTE:
FURNISHED BY CONTRACTOR - INSTALLED BY CONTRACTOR
ALL VALVES SHALL BE INSTALLED ON LEVEL SECTION OF PIPE

BEFORE YOU DIG 1800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

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WATER LINE 2 PLAN AND PROFILE STA 10+00 TO 14+00

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020
OKLAHOMA CA #1460 EXP DATE 6/30/21

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA, OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE: HORIZONTAL: 1"=20'-0" VERTICAL: 1"=2'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER		11/20

APPROVED: CITY ENGINEER

FILE: DRAWING:
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 54 OF 69 SHEETS

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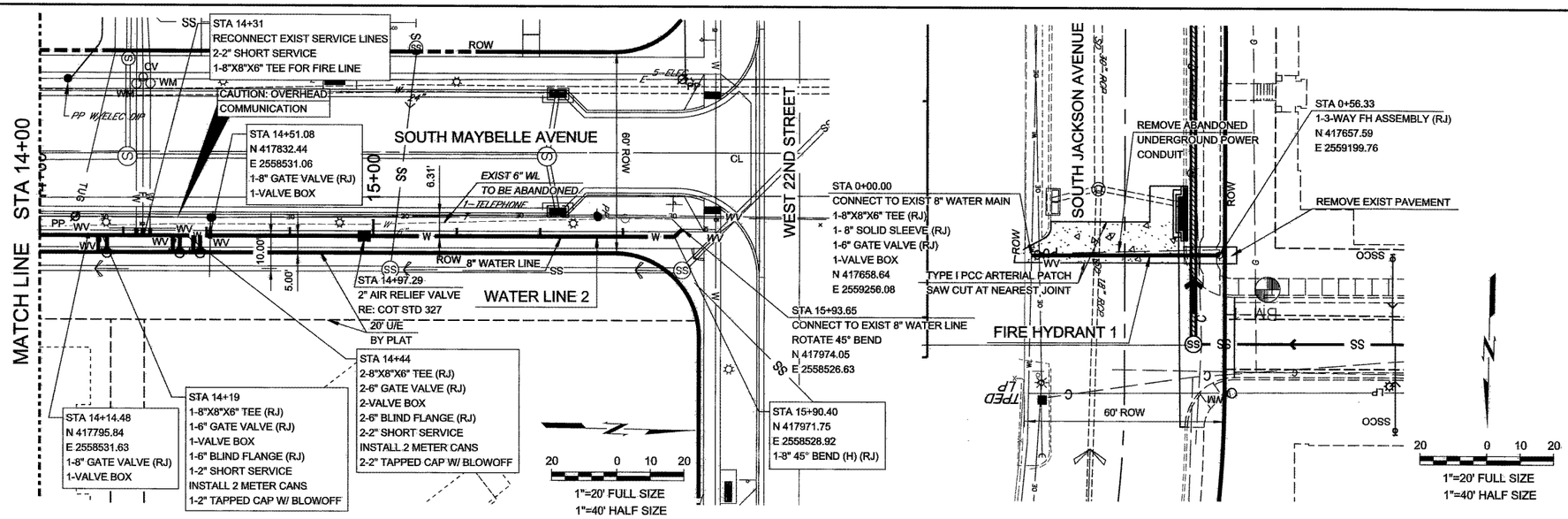


BENCHMARK 1
CHISELED SQUARE
N: 417667.574
E: 2559185.253
ELEV: 631.551
(LOCATED ON THE NORTH CURB OF THE SECOND DRIVEWAY ON THE EAST SIDE OF S JACKSON AVE NORTH OF W 23RD ST)

BENCHMARK 6
CHISELED SQUARE
N: 417443.778
E; 2558530.139
ELEV: 632.932
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE SOUTH OF THE FIRST DRIVEWAY NORTH OF W 23RD ST)

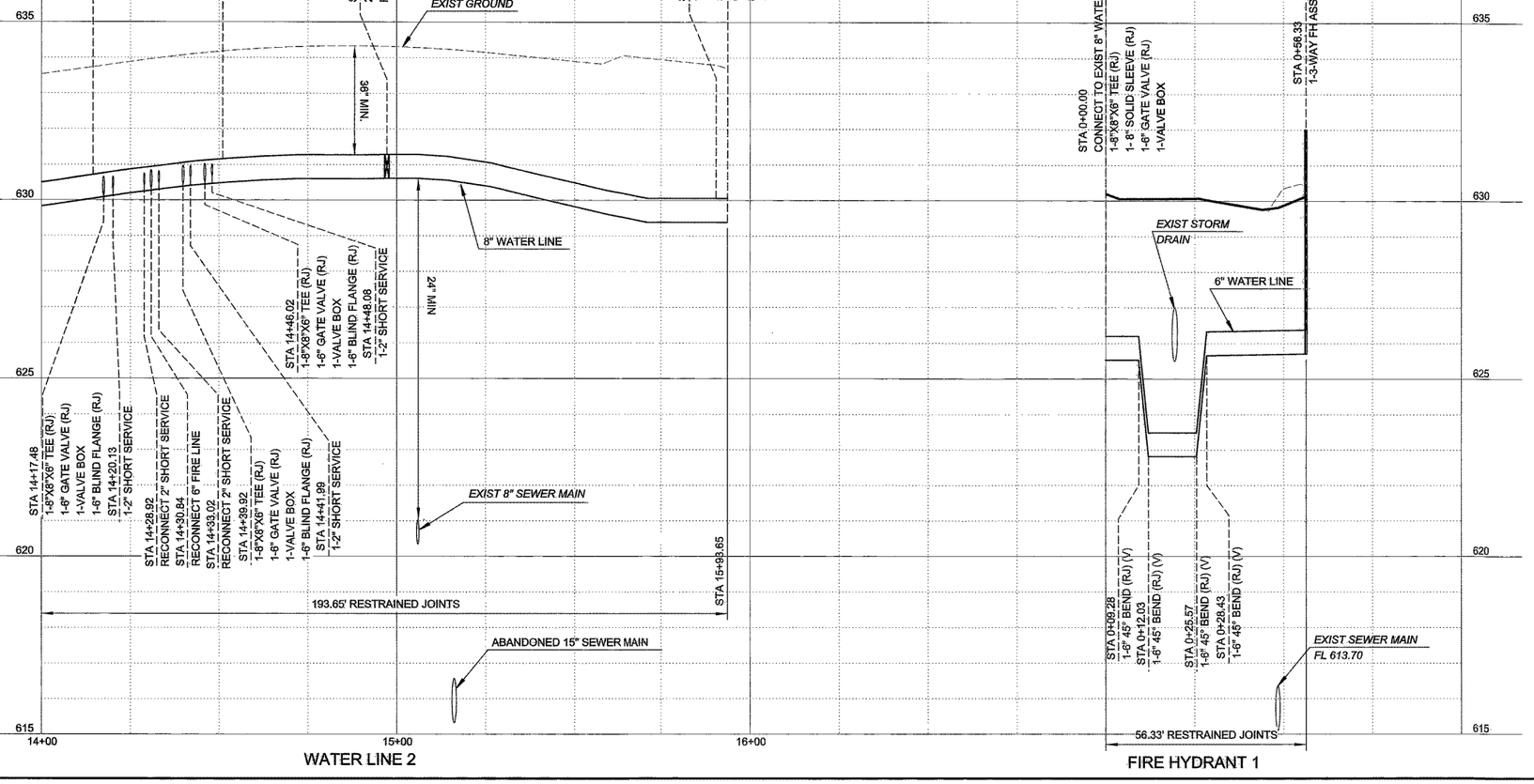
BENCHMARK 7
CHISELED SQUARE
N: 417646.066
E: 2558526.818
ELEV: 630.406
(LOCATED ON THE CURB ON THE EAST SIDE OF S MAYBELLE AVE AT W 22ND PL)

NOTE:
ALL VALVES AND FIRE HYDRANTS SHALL BE INSTALLED ON LEVEL SECTION OF PIPE. MAXIMUM PIPE DEFLECTION HORIZONTAL OR VERTICAL SHALL BE 1°30' PER JOINT. THE DEFLECTION NOTED SHALL BE EVENLY SPACED OVER THE STATIONS SHOWN.

SUMMARY TABLE

(1) 2" AIR RELIEF VALVE, RJ & CAN
(2) 8" GATE VALVES, RJ, & VALVE BOX
(4) 6" GATE VALVES, RJ, & VALVE BOX
(4) 8"X8"X6" TEES, RJ
(1) 8" SOLID SLEEVE, RJ
(3) 6" BLIND FLANGE, RJ
(3) 2" SHORT SERVICE
(3) METER CAN FOR 2" METER
(3) 2" TAPPED CAP W/ BLOWOFF
(4) 6" 45° BENDS, RJ
(1) 8" 45° BEND, RJ

NOTE:
FURNISHED BY CONTRACTOR - INSTALLED BY CONTRACTOR
ALL VALVES SHALL BE INSTALLED ON LEVEL SECTION OF PIPE



BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

CAUTION
NOTICE TO CONTRACTOR

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WATER LINE 2 STA 14+00 TO 15+93.65
FIRE HYDRANT 1 STA 0+00 TO 0+56.33

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA
11/17/2020
OKLAHOMA CA #1460 EXP DATE 6/30/21

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: 1"=20'-0"
PROFILE SCALE:
HORIZONTAL: 1"=20'-0"
VERTICAL: 1"=2'-0"

DRAWN	MDE	11/20/20
DESIGNED	JR	11/20/20
SURVEY	ARJ	11/20/20
PROJ MGR.		11/2020
LEAD MGR.		11/20
FIELD MGR.		11/20
RECOMMENDED: DESIGN MANAGER		11·20

APPROVED: CITY ENGINEER

FILE: DRAWING: DATE: 11/20/2020
ATLAS PAGE NO.: 35 SHEET 55 OF 69 SHEETS

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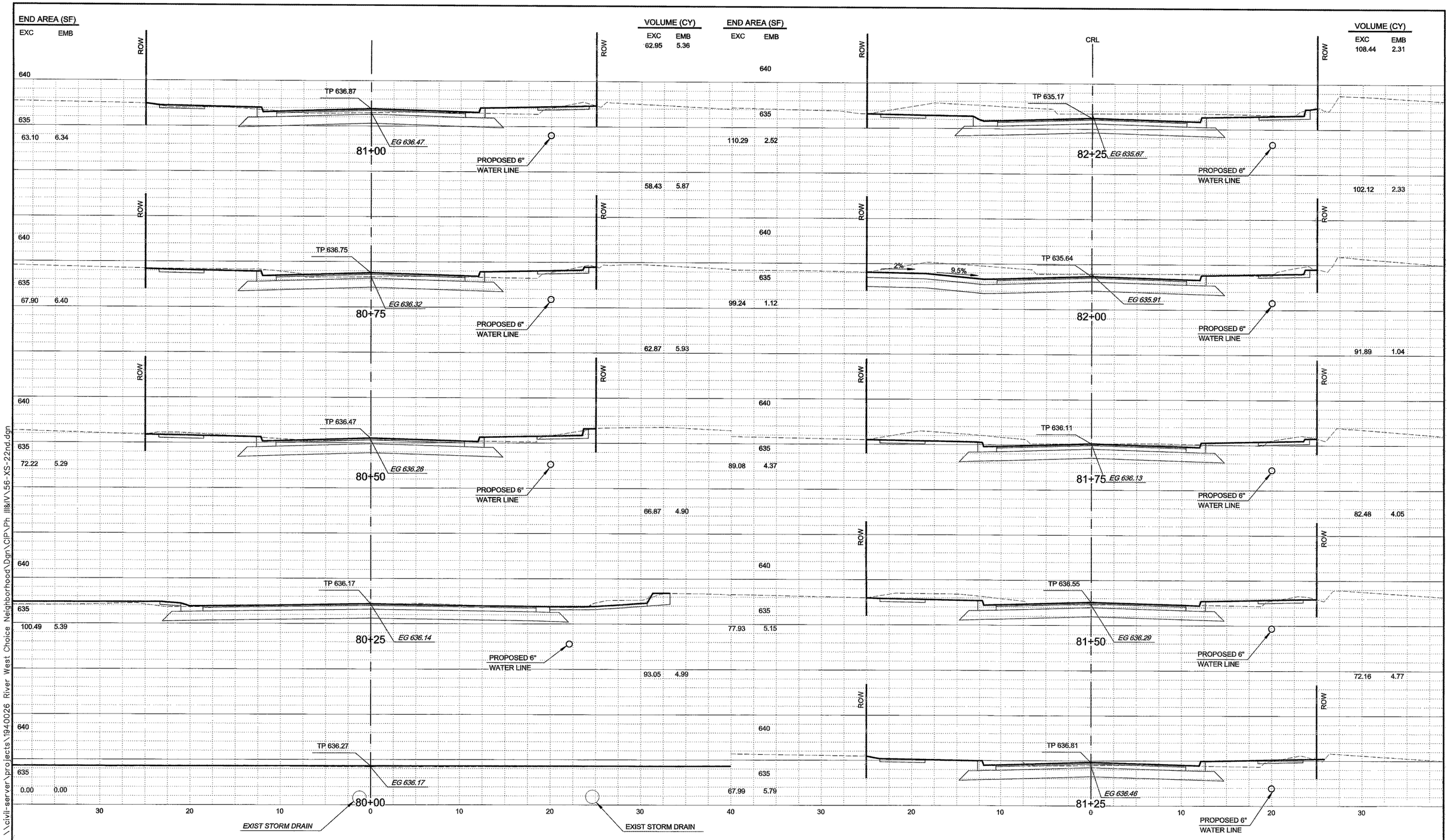


EXIST UTILITIES ARE SHOWN IN APPROX RELATION TO CRL. SIZE & DEPTHS TO BE FIELD VERIFIED,

COT PROJECT 148170, CONTRACT 4, RIVER WEST CNI

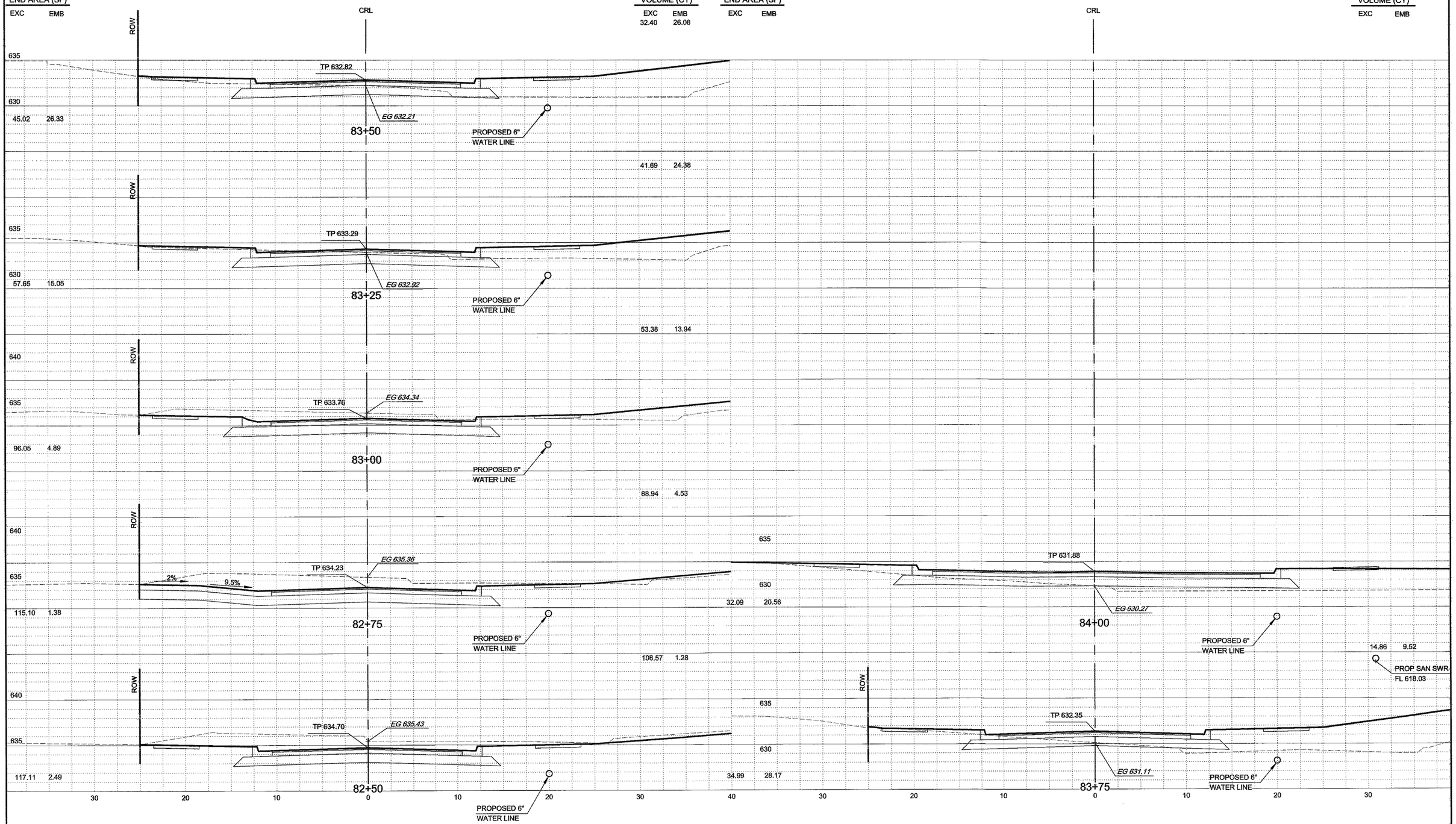
CROSS SECTIONS
WEST 22ND PLACE
STA 80+00 - 82+25

11/17/2020

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA

11/17/2020 5:21:03 PM \\civil-server\projects\1940026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\56-XS-22nd.dgn

END AREA (SF) EXC	END AREA (SF) EMB	VOLUME (CY) EXC	VOLUME (CY) EMB
45.02	26.33	32.40	26.08
57.65	15.05	41.69	24.38
96.05	4.89	53.38	13.94
115.10	1.38	88.94	4.53
117.11	2.49	106.57	1.28
		32.09	20.56
		34.99	28.17



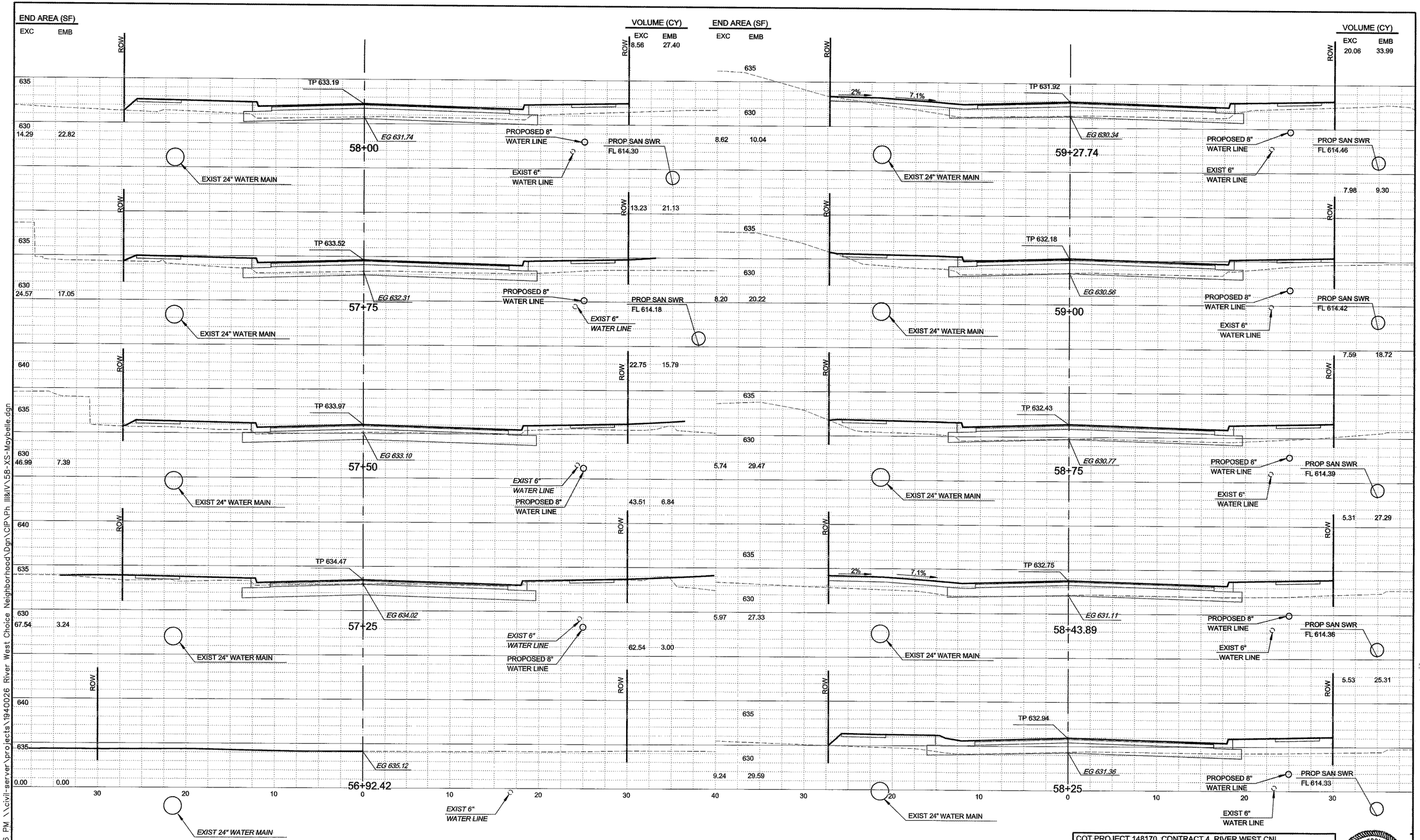
EXIST UTILITIES ARE SHOWN IN APPROX RELATION TO CRL. SIZE & DEPTHS TO BE FIELD VERIFIED,

COT PROJECT 148170, RIVER WEST CNI

CROSS SECTIONS
WEST 22ND PLACE
STA 82+50 - 84+00

11/17/2020

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA



EXIST UTILITIES ARE SHOWN IN APPROX RELATION TO CRL. SIZE & DEPTHS TO BE FIELD VERIFIED,

COT PROJECT 148170, CONTRACT 4, RIVER WEST CNI

CROSS SECTIONS
SOUTH MAYBELLE AVENUE
STA 56+92.42 - 59+27.74

11/17/2020

LICENSED PROFESSIONAL ENGINEER
JORDAN RODICH
26548
OKLAHOMA

11/17/2020 5:22:56 PM \\civil-server\projects\19400026 River West Choice Neighborhood\Dgn\CIP\Ph III&IV\58-XS-Maybelle.dgn

END AREA (SF)

EXC EMB

VOLUME (CY)

EXC EMB

ROW

635

TP 632.62

630

EG 632.62

PROPOSED 8" WATER LINE

PROP SAN SWR FL 614.69

67.03 1.30

60+42.45

EXIST 24" STORM DRAIN

EXIST 6" WATER LINE

12.29 0.24

EXIST 24" WATER LINE

ROW

635

TP 632.37

630

EG 630.89

PROP SAN SWR FL 614.67

38.60 15.01

60+25

EXIST 24" STORM DRAIN

EXIST 6" WATER LINE

35.74 13.90

PROPOSED 8" WATER LINE

EXIST 24" WATER LINE

ROW

640

635

TP 632.05

6.3%

2%

630

EG 629.98

PROP SAN SWR FL 614.64

10.12 12.69

60+00

EXIST 24" STORM DRAIN

EXIST 6" WATER LINE

9.37 11.75

PROPOSED 8" WATER LINE

EXIST 24" WATER LINE

ROW

640

635

TP 631.86

630

EG 630.04

PROP SAN SWR FL 614.57

15.71 54.01

59+75

PORPOSED 24" STORM DRAIN

EXIST 6" WATER LINE

14.55 50.01

PROPOSED 8" WATER LINE

EXIST 24" WATER LINE

ROW

ROW

640

635

TP 631.83

PORPOSED 8" WATER LINE

EG 630.17

PROP SAN SWR FL 614.48

21.66 36.71

59+50

30 20 10 0 10 20 30 40

EXIST 24" WATER LINE

PROP 15" STORM DRAIN

EXIST 6" WATER LINE

EXIST UTILITIES ARE SHOWN IN APPROX RELATION TO CRL. SIZE & DEPTHS TO BE FIELD VERIFIED,

COT PROJECT 148170, CONTRACT 4, RIVER WEST CNI

CROSS SECTIONS

SOUTH MAYBELLE AVENUE

STA 59+50 - 60+42.45

11/17/2020

LICENSED PROFESSIONAL ENGINEER JORDAN RODICH 26548 OKLAHOMA

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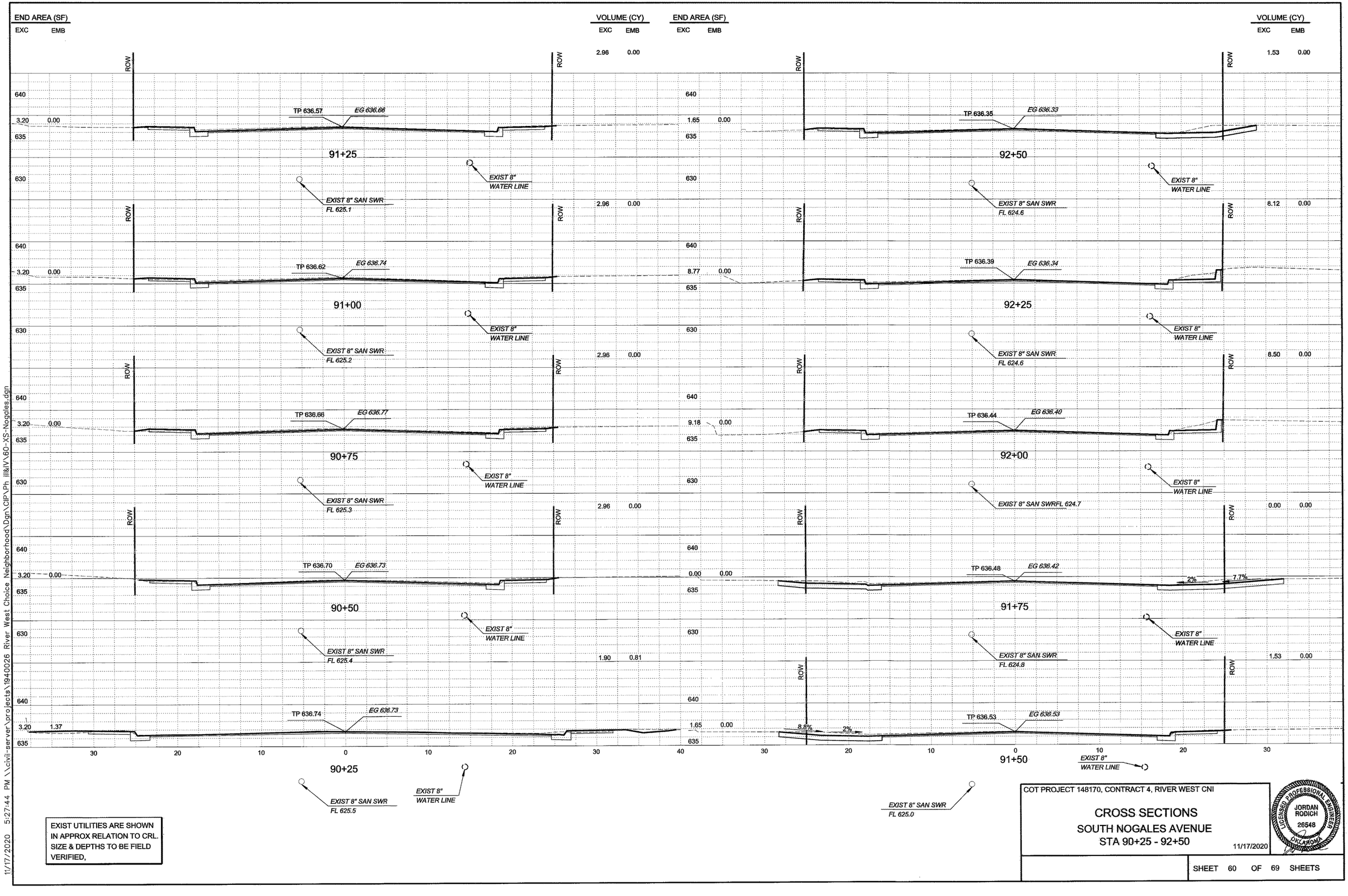

EXIST UTILITIES ARE SHOWN IN APPROX RELATION TO CRL. SIZE & DEPTHS TO BE FIELD VERIFIED,

COT PROJECT 148170, CONTRACT 4, RIVER WEST CNI

CROSS SECTIONS
SOUTH NOGALES AVENUE
STA 90+25 - 92+50

11/17/2020

JORDAN RODICH 26548 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

SHEET 60 OF 69 SHEETS

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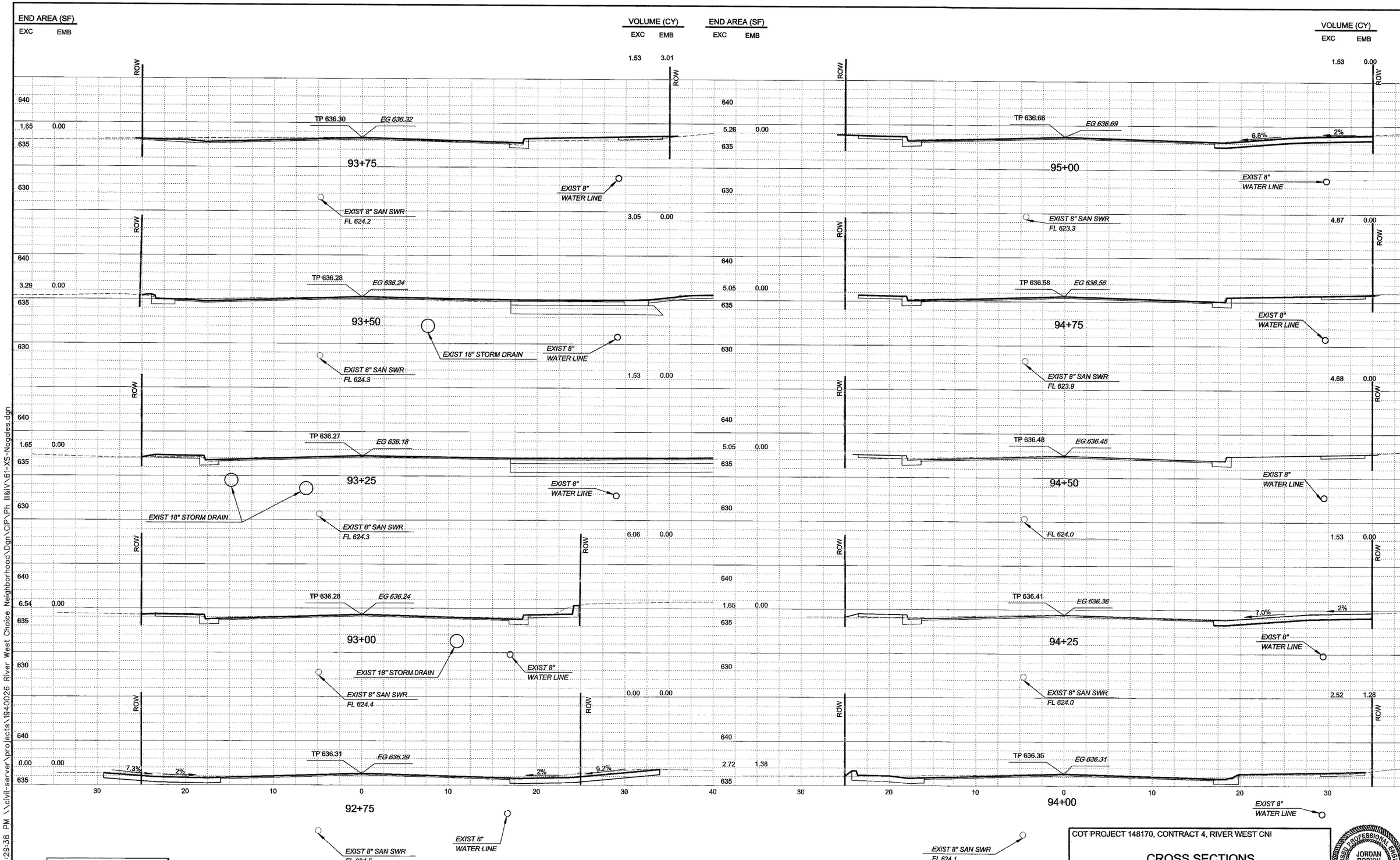

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COT PROJECT 148170, CONTRACT 4, RIVER WEST CNI

CROSS SECTIONS
SOUTH NOGALES AVENUE
STA 92+75 - 95+00

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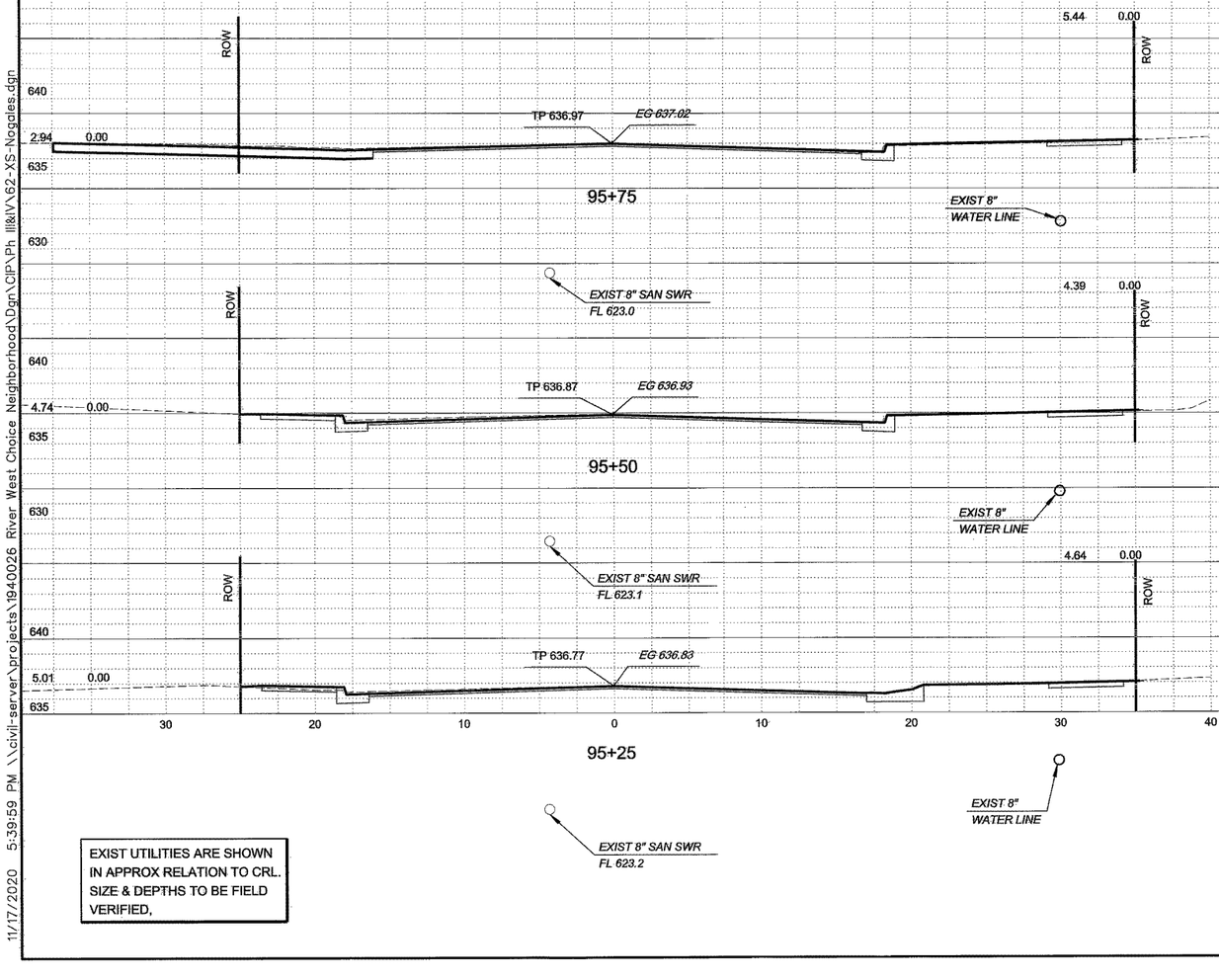
END AREA (SF) EXC EMB | VOLUME (CY) EXC EMB | END AREA (SF) EXC EMB | VOLUME (CY) EXC EMB



EXIST UTILITIES ARE SHOWN IN APPROX RELATION TO CRL. SIZE & DEPTHS TO BE FIELD VERIFIED,

COT PROJECT 148170, CONTRACT 4, RIVER WEST CNI

CROSS SECTIONS
SOUTH NOGALES AVENUE
STA 95+25 - 95+75

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TREE PROTECTION

1. ALL EXISTING TREES SHOWN ON PLANS TO BE PRESERVED SHALL BE PROTECTED DURING ALL PHASES OF CONSTRUCTION.
2. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIPLINES.
3. PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   - SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT.
   - ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6") OR TRENCHING NOT REVIEWED BY OWNER'S REPRESENTATIVE.
   - WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT.
   - OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CONCRETE TRUCK CLEANING, AND FIRES.
4. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   - WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE IMPROVEMENT.
   - WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIPLINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZE ROOT DAMAGE).
   - WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORKSPACE BETWEEN THE FENCE AND THE BUILDING.
   - WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS.
   - WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
5. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
6. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
7. ANY UTILITY TRENCHING REQUIRED SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
8. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OF NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
9. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.
10. ALL MAJOR AND FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY. (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES)
11. THE PROJECT ARCHITECT OR ENGINEER WILL REVIEW PAY APPLICATIONS SUBMITTED BY THE CONTRACTOR AND SHALL APPROVE PAYMENT BASED ON THE QUANTITY OF PROTECTION FENCING THAT IS PROPERLY AND COMPLETELY INSTALLED ACCORDING TO THE DRAWINGS, INCLUDING PLACING AND MAINTAINING.
12. BASIS OF PAYMENT WILL BE MADE FOR EACH LINEAR FOOT OF INSTALLED TOPSOIL AT THE CONTRACT UNIT PRICE PER SPECIFIED PAY UNIT.
    - PROTECTION FENCING - PAY ITEM PER LINEAR FOOT

LANDSCAPE GRADING & TOPSOIL

1. TOPSOIL: REUSE FROM STOCKPILE AND PROVIDE NEW TOPSOIL AS NEEDED.
2. IMPORTED TOPSOIL: FRIABLE LOAM, TYPICAL OF CULTIVATED TOPSOILS LOCALLY; FREE OF SUBSOIL, ROOTS, GRASS, EXCESSIVE AMOUNT OF WEEDS, STONE, AND FOREIGN MATTER; ACIDITY RANGE (PH) OF 6.0 TO 7.0; CONTAINING A MINIMUM OF 2 PERCENT AND A MAXIMUM OF 5 PERCENT ORGANIC MATTER. TOPSOIL SHALL NOT BE DELIVERED OR USED FOR PLANTING WHILE IN A FROZEN OR MUDDY CONDITION. TOPSOIL SHALL CONFORM TO THE FOLLOWING GRAIN SIZE DISTRIBUTION FOR MATERIAL PASSING THE #10 SIEVE:

	PERCENT PASSING	
U.S.SIEVE SIZE NUMBER	MINIMUM	MAXIMUM
10	100	--
18	85	100
35	70	95
60	50	85
140	36	63
270	32	52
0.002MM	3	8

3. SUBMIT SOURCE AND ANALYSIS OF TOPSOIL FOR BACKFILL. TEST TO BE PERFORMED BY ACCREDITED SOILS LABORATORY. SUBMITS SOILS TEST AND RECOMMENDATIONS FOR AMENDMENTS INCLUDING ADJUSTING SOIL pH TO A VALUE BETWEEN 6.0 AND 7.0.
4. ELIMINATE UNEVEN AREAS AND LOW SPOTS. REMOVE DEBRIS, ROOTS, BRANCHES, STONES, IN EXCESS OF 1 INCH IN SIZE. REMOVE SUB-GRADE CONTAMINATED WITH PETROLEUM PRODUCTS.
5. SCARIFY SUB-GRADE TO DEPTH OF 6 INCHES WHERE TOPSOIL IS SCHEDULED. REMOVE DEBRIS THAT IS BROUGHT TO THE SURFACE IN EXCESS OF 1 INCH IN SIZE.
6. REVIEW SUB-GRADE SCARIFICATION WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCING PLACEMENT OF TOPSOIL.
7. USE TOPSOIL IN RELATIVELY DRY STATE. PLACE DURING DRY WEATHER.
8. FINE GRADE TOPSOIL OR PLANTING MIX ELIMINATING ROUGH OR LOW AREAS. MAINTAIN LEVELS, PROFILES, AND CONTOURS OF SUB-GRADE.
9. REMOVE STONE, ROOTS, GRASS, WEEDS, DEBRIS, AND FOREIGN MATERIAL WHILE SPREADING.
10. MANUALLY SPREAD TOPSOIL OR PLANTING MIX AROUND TREES, PLANTS, AND STRUCTURES, TO PREVENT DAMAGE.
11. LIGHTLY COMPACT PLACED TOPSOIL.
12. REMOVE SURPLUS SUBSOIL AND TOPSOIL FROM SITE.
13. LEAVE STOCKPILE AREA AND SITE CLEAN AND RAKED, READY TO RECEIVE LANDSCAPING.
14. TOP OF TOPSOIL OR PLANTING MIX TOLERANCES: PLUS OR MINUS 1/2 INCH.
15. THE CITY OF TULSA INSPECTOR AND THE PROJECT ARCHITECT OR ENGINEER WILL REVIEW PAY APPLICATIONS SUBMITTED BY THE CONTRACTOR AND SHALL APPROVE PAYMENT BASED ON THE QUANTITY OF TOPSOIL THAT IS PROPERLY AND COMPLETELY INSTALLED ACCORDING TO THE DRAWINGS, INCLUDING PLACING AND COMPACTING
16. BASIS OF PAYMENT WILL BE MADE FOR EACH CUBIC YARD OF INSTALLED TOPSOIL AT THE CONTRACT UNIT PRICE PER SPECIFIED PAY UNIT.
    - TOPSOIL - PAY ITEM PER CUBIC YARD

SODDING

1. SOD: CULTIVATED GRASS SOD; WITH STRONG FIBROUS ROOT SYSTEM, FREE OF STONES, BURNED OR BARE SPOTS, AND WEEDS.
2. VERIFY THAT PREPARED SOIL BASE IS READY TO RECEIVE THE WORK OF THIS SECTION.
3. SUBMIT GRASS SPECIES AND LOCATION OF SOD SOURCE FOR APPROVAL.
4. DELIVER SOD ON PALLETS. PROTECT EXPOSED ROOTS FROM DEHYDRATION.
5. DO NOT DELIVER MORE SOD THAN CAN BE LAID WITHIN 24 HOURS.
6. COORDINATE THE WORK OF THIS SECTION WITH INSTALLATION OF UNDERGROUND SPRINKLER SYSTEM AND PLANT MATERIAL AS APPLICABLE.
7. MAINTAIN SODDED AREAS IMMEDIATELY AFTER PLACEMENT UNTIL GRASS IS WELL ESTABLISHED, HAS ACHIEVED COMPLETE COVERAGE, AND EXHIBITS A VIGOROUS GROWING CONDITION OR UNTIL DATE OF SUBSTANTIAL COMPLETION WHICHEVER IS LONGER. MAINTENANCE PERIOD SHALL INCLUDE MINIMUM OF TWO MOWINGS.
8. FINISH GRADE AREAS TO BE SODDED SO THAT THE SURFACE IS SMOOTH AND IS APPROXIMATELY 1 INCH BELOW ADJOINING SIDEWALKS AND OTHER PAVED SURFACES.
9. REMOVE ALL WEEDS AND GRASSES FROM AREAS TO BE SODDED.
10. PLANTING SURFACE SHALL BE MADE FRIABLE BY APPROVED METHOD OF SCARIFICATION. PREPARED SURFACE SHALL BE FLOATED SMOOTH AND FREE OF BUMPS AND DEPRESSIONS. REMOVE STONES AND FOREIGN MATTER OVER 2 INCHES IN DIAMETER FROM TOP 2 INCHES OF SOD BED. PLANT IMMEDIATELY THEREAFTER, PROVIDED THE BED HAS REMAINED IN A FRIABLE CONDITION AND HAS NOT BECOME MUDDY OR HARD. IF IT HAS BECOME HARD, TILL TO A FRIABLE CONDITION AGAIN.
11. APPLY FERTILIZER NO MORE THAN 48 HOURS BEFORE LAYING SOD.
12. LIGHTLY WATER TO AID THE DISSIPATION OF FERTILIZER.
13. PRIOR TO LAYING SOD, INCORPORATE SOIL AMENDMENTS SUCH AS LIME AND SULPHUR AT RATES RECOMMENDED BY SOILS TESTS TO A 4 INCH DEPTH.
14. MOISTEN PREPARED SURFACE IMMEDIATELY PRIOR TO LAYING SOD.
15. LAY SOD IMMEDIATELY ON DELIVERY TO SITE WITHIN 24 HOURS AFTER HARVESTING TO PREVENT DETERIORATION.
16. LAY SOD TIGHT WITH NO OPEN JOINTS VISIBLE AND NO OVERLAPPING; STAGGER END JOINTS 12 INCHES MINIMUM. DO NOT STRETCH OR OVERLAP SOD PIECES.
17. FINISHED SODDING TO BE SMOOTH AND FREE OF BUMPS AND DEPRESSION. SURFACE TO BE FLUSH WITH ADJOINING GRASS AREAS IF ANY. PLACE TOP ELEVATION OF SOD APPROXIMATELY 1/2 INCH BELOW ADJOINING EDGING, PAVING AND CURBS. GRADE PLANTING SURFACE AS NECESSARY TO ACCOMPLISH ABOVE.
18. ON SLOPES 4 INCHES PER FOOT AND STEEPER, LAY SOD PERPENDICULAR TO SLOPE AND SECURE EVERY ROW WITH WOODEN PEGS AT MAXIMUM 2 FEET ON CENTER. DRIVE PEGS FLUSH WITH SOIL PORTION OF SOD.
19. WATER SODDED AREAS DEEPLY IMMEDIATELY AFTER INSTALLATION.
20. AFTER SOD AND SOIL HAVE DRIED SUFFICIENTLY, ROLL SODDED AREAS TO INSURE GOOD BOND BETWEEN SOD AND SOIL AND TO REMOVE MINOR DEPRESSIONS AND IRREGULARITIES.
21. SODDED AREAS TO BE VIGOROUSLY GROWING AT TIME OF FINAL ACCEPTANCE OR IF INSTALLATION OCCURS DURING DORMANCY WARRANTY TO EXTEND THROUGH FIRST MONTH OF FOLLOWING GROWING SEASON. AT CONCLUSION OF INITIAL WARRANTY PERIOD REPLACE DEAD OR UNHEALTHY SOD.
22. MOW GRASS AT REGULAR INTERVALS TO MAINTAIN AT A MAXIMUM HEIGHT OF 2-1/2". DO NOT CUT MORE THAN 1/3 OF GRASS BLADE AT ANY ONE MOWING.
23. NEATLY TRIM EDGES AND HAND CLIP WHERE NECESSARY.
24. IMMEDIATELY REMOVE CLIPPINGS AFTER MOWING AND TRIMMING.
25. WATER SUFFICIENTLY TO INSURE ESTABLISHMENT AND MAINTAIN VIGOROUS APPEARANCE.
26. ROLL AND/OR TOPDRESS SURFACE AS NEEDED TO REMOVE MINOR DEPRESSIONS OR IRREGULARITIES.
27. CONTROL GROWTH OF WEEDS. APPLY HERBICIDES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMEDY DAMAGE RESULTING FROM IMPROPER USE OF HERBICIDES.
28. IMMEDIATELY REPLACE SOD IN AREAS WHICH SHOW DETERIORATION OR BARE SPOTS. ANY AREAS THAT HAVE HAD TOPSOIL WASHED AWAY SHALL BE FILLED TO MATCH SPECIFIED GRADE WITH TOPSOIL BEFORE RESODDING.
29. PROTECT SODDED AREAS WITH WARNING SIGNS DURING MAINTENANCE PERIOD.
30. FOR THE PURPOSE OF ESTABLISHING AN ACCEPTABLE STANDARD, NO BARE AREAS WILL BE PERMITTED.
31. THE PROJECT ARCHITECT OR ENGINEER WILL REVIEW PAY APPLICATIONS SUBMITTED BY THE CONTRACTOR AND SHALL APPROVE PAYMENT BASED ON THE SQUARE FOOT QUANTITY OF EACH TYPE OF SOLID SOD THAT IS PROPERLY AND COMPLETELY INSTALLED ACCORDING TO THE DRAWINGS, INCLUDING PLACING AND MAINTAINING.
32. BASIS OF PAYMENT WILL BE MADE FOR EACH TYPE OF SOLID SOD AT THE CONTRACT UNIT PRICE PER SPECIFIED PAY UNIT.
    - BERMUDA SOD - PAY ITEM PER SQUARE FOOT.

PLANTING

1. WORK REQUIRED IN THIS SECTION TO BE PERFORMED BY EXPERIENCED PERSONNEL UNDER DIRECTION OF A SKILLED FOREMAN.
2. CONTRACTOR SHALL LOCATE ALL MATERIALS AND BE RESPONSIBLE FOR CONFORMANCE WITH REQUIREMENTS OF THIS SECTION. ALL PLANTS NOT MEETING REQUIREMENTS TO BE REJECTED.
3. ALL TREES TO BE REVIEWED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING
   A. TREES WILL BE REVIEWED AT LOCAL GROWING OR WHOLESALE NURSERY BY OWNER'S REPRESENTATIVE AND APPROVED BEFORE DELIVERING TO THE SITE. CONTRACTOR SHALL SCHEDULE REVIEW OF PLANT MATERIAL IN SUCH A MANNER THAT NO SINGLE REVIEW PERIOD WILL EXCEED ONE WORKING DAY WITH A MAXIMUM OF TWO REVIEW PERIODS. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION AND COORDINATION WITH ALL PARTIES PRIOR TO SCHEDULING.
4. ALL PLANT MATERIAL SHALL BE TRUE TO NAME, IN GOOD HEALTH, FREE OF DISEASE AND INSECTS, EXCELLENT IN FORM AND IN CONFORMANCE WITH ANSI Z60. SPECIES AND SIZE IDENTIFIED ON PLANT LIST. ALL PLANTER MATERIALS TO BE NURSERY GROWN.
5. B&B PLANTS TO BE MOVED WITH SOLID BALLS WRAPPED IN BURLAP. PLANTS TO BE LIFTED ONLY BY BALL OR CONTAINER
6. DELIVER PLANT MATERIALS IMMEDIATELY PRIOR TO PLACEMENT. KEEP PLANT MATERIALS NOT IMMEDIATELY INSTALLED MOIST AND PROTECT FROM FREEZING BY COVERING BALL OR CONTAINER WITH MULCH. ANY PLANTS NOT PLANTED WITHIN 2 DAYS OF DELIVERY ARE TO BE HEELED-IN IN A VERTICAL POSITION, ROOT BALLS FULLY ENCOMPASSED BY MULCH AND A TEMPORARY WATERING SYSTEM INSTALLED.
7. WARRANT ALL PLANTS TO BE LIVING, HEALTHY SPECIMENS FOR A PERIOD OF (ONE YEAR) COMMENCING UPON DATE OF SUBSTANTIAL COMPLETION. WARRANTY PERIOD SHALL TERMINATE ONLY IF PLANTS HAVE BEEN IN FULL LEAF FOR 30 DAYS AT END OF WARRANTY PERIOD. TERMINATION OF WARRANTY PERIOD SHALL BE EXTENDED AS NECESSARY TO COMPLY. ALL MATERIALS TO BE IN VIGOROUS CONDITION AT END OF WARRANTY PERIOD.
8. IMMEDIATELY REMOVE DEAD PLANTS AND PLANTS NOT IN A VIGOROUS CONDITION AND REPLACE AS SOON AS WEATHER CONDITIONS PERMIT. EACH REPLACEMENT SHALL BE COVERED WITH ONE YEAR WARRANTY COMMENCING AT TIME OF PLANTING. REPLACEMENTS TO MATCH ADJACENT PLANTS OF THE SAME SPECIES IN SIZE AND FORM.
9. CONTRACTOR TO BEGIN MAINTENANCE OF PLANT MATERIAL IMMEDIATELY AFTER PLANTING AND CONTINUE UNTIL 60 DAYS PAST DATE OF SUBSTANTIAL COMPLETION.
10. MAINTENANCE SHALL INCLUDE MEASURES NECESSARY TO ESTABLISH AND MAINTAIN PLANTS IN A VIGOROUS AND HEALTHY GROWING CONDITION. INCLUDE THE FOLLOWING:
    A. CULTIVATION AND WEEDING OF PLANT BEDS AND TREE PITS. WHEN HERBICIDES ARE USED FOR WEED CONTROL, APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMEDY DAMAGE RESULTING FROM USE OF HERBICIDES.
    B. WATERING SUFFICIENT TO MAINTAIN OPTIMUM MOISTURE LEVEL.
    C. PRUNING, INCLUDING REMOVAL OF DEAD OR BROKEN BRANCHES, AND TREATMENT OF PRUNE WOUNDS.
    D. DISEASE AND INSECT CONTROL.
    E. MAINTAINING PLANTS IN AN UPRIGHT, PLUMB POSITION, AND REPAIR OF SETTLING.
    F. MAINTENANCE OF WRAPPINGS, GUYS, TURNBUCKLES AND STAKES. ADJUST TURNBUCKLES OR OTHERWISE KEEP
    G. GUY WIRES TIGHT. REPAIR OR REPLACE ACCESSORIES WHEN REQUIRED.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PRUNING TREES THAT BECOME AN OBSTRUCTION TO SAFE TRAFFIC FLOWS OR THE OPEN VIEW OF TRAFFIC SIGNALIZATION.
12. MULCH: DARK BROWN, DOUBLE GROUND HARDWOOD BARK MULCH EQUAL TO THAT PRODUCED BY FOSTER BROTHERS WOOD PRODUCTS. www.fosterbros.com SUBMIT TYPE AND SOURCE FOR APPROVAL
13. FERTILIZER: OSMOCOTE SLOW RELEASE 18-6-12
14. PRIOR TO PLANT INSTALLATION, TOP 6 INCH LAYER OF TOPSOIL BACKFILL TO CONSIST OF 1:1 MIXTURE OF COMPOST AND TOPSOIL.
15. TREES TO BE SECURED AND PROTECTED FROM OVERTURNING BY METHODS SHOWN ON LANDSCAPE PLANS.
16. LOCATIONS OF PLANT MATERIAL TO BE STAKED IN THE FIELD FOR REVIEW AND APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
17. WRAP TRUNKS OF ALL TREES OF THE ACER AND GLEDETSIA GENUS.
18. PLANT CONTAINERS, TOP LAYER OF BURLAP, ROPES, TAGS, ETC. TO BE REMOVED FROM PLANT ROOTBALL.
19. ONCE TREES ARE IN PLACE, THOROUGHLY WATER SOIL WHEN THE HOLE IS HALF FULL, AND AGAIN WHEN FULL.
20. AFTER PLANTING TREES, FORM A 3' DIAMETER RIDGE OF TOPSOIL AROUND EDGE OF EXCAVATION TO RETAIN WATER.
32. THE PROJECT ARCHITECT OR ENGINEER WILL REVIEW PAY APPLICATIONS SUBMITTED BY THE CONTRACTOR AND SHALL APPROVE PAYMENT BASED ON THE SQUARE FOOT QUANTITY OF TREES AND SHRUBS THAT IS PROPERLY AND COMPLETELY INSTALLED ACCORDING TO THE DRAWINGS, INCLUDING PLANTING, BACKFILLING, AND FINISHING.
33. BASIS OF PAYMENT WILL BE MADE FOR EACH TREE, AND EACH SHRUB AT THE CONTRACT UNIT PRICE PER SPECIFIED PAY UNIT.
    - TREE - PAY ITEM PER EACH UNIT
    - SHRUB - PAY ITEM PER EACH UNIT

LANDSCAPE MAINTENANCE

1. MAINTENANCE WORK OF LANDSCAPE TO INCLUDE FURNISHING OF NECESSARY LABOR, TOOLS, EQUIPMENT, MATERIALS, SUPPLIES, AND MISCELLANEOUS ITEMS REQUIRED FOR ACCOMPLISHING LANDSCAPE MAINTENANCE AS SPECIFIED.
2. WATER SHALL BE FURNISHED BY CONTRACTOR AND TRANSPORTED TO THE SITE, OR VIA IRRIGATION SYSTEM, OR HYDRANTS ON SITE, AND PAID FOR BY CONTRACTOR. CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT FOR USE OF WATER.
3. CERTAIN ITEMS OF WORK INCLUDED BUT ARE NOT NECESSARILY LIMITED TO THE FOLLOWING ARE:
   a. MOWING, WATERING EDGING, TRIMMING, WEE CONTROL, FERTILIZATION, TRASH AND DEBRIS REMOVAL, AND REPAIR OF LAWN AREAS.
   b. PRUNING, FERTILIZATION, AND WATERING OF TREES AND SHRUBS.
   c. MULCH, WEED CONTROL, CULTIVATION, AND TRASH REMOVAL FROM SHRUB, GROUNDCOVER, AND TREE BEDS.
4. ALL MAINTENANCE OPERATIONS SHALL BE ACCOMPLISHED AS REQUIRED TO MAINTAIN STANDARDS AS HEREIN SPECIFIED. FREQUENCIES INDICATED HEREIN ARE GENERAL GUIDELINES AND ARE NOT INTENDED TO RESTRICT ACCOMPLISHMENT OF WORK AS DICTATED BY EXISTING CONDITIONS OR CONTRACTUAL AGREEMENTS.
5. MAINTENANCE OPERATIONS SHALL NOT BE PERFORMED WHEN EXISTING WEATHER OR GROUND CONDITIONS WOULD ADVERSELY AFFECT QUALITY OF WORK OR RESULT IN DAMAGE TO GROUNDS.
6. CONTRACTOR SHALL PROTECT ALL EXISTING FACILITIES AND PLANT MATERIAL AND REPAIR OR REPLACE ANY DAMAGE DUE TO LANDSCAPE MAINTENANCE OPERATIONS.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPORT IN WRITING TO THE OWNER ANY AND ALL CONDITIONS THAT MAY EXIST OR OCCUR WHICH DETRACT FROM THE APPEARANCE OF THE LANDSCAPING AND IS BEYOND THE SCOPE OF THIS CONTRACT.
8. CLEAN UP SHALL OCCUR DURING AND AFTER ALL MAINTENANCE OPERATIONS AND DEBRIS SHALL BE DISPOSED OF LEGALLY OFF-SITE.
9. FERTILIZER SHALL BE OF COMMERCIAL GRADE FURNISHED IN STANDARD FACTORY SEALED CONTAINERS CONFORMING TO SPECIFIED ANALYSIS. THE TERM ANALYSIS SHALL MEAN THE PERCENTAGES OF "TOTAL NITROGEN", "AVAILABLE PHOSPHORIC ACID", AND "SOLUBLE POTASH".
10. WATERING OF LAWN, TREES, AND SHRUB AREAS, DURING THE GROWING SEASON, TO BE ADJUSTED FOR THE AMOUNT OF RAINFALL TO PROVIDE APPROXIMATELY 1 $\frac{1}{2}$" - 2" OF MOISTURE EVERY TEN DAYS.
    a. DURING LAWN DORMANCY, WATERING SHALL BE ACCOMPLISHED ONCE A MONTH.
11. MOWING OF LAWN AREAS TO BE ACCOMPLISHED AS GROWTH RATE INDICATED, APPROXIMATELY FOUR (4) TIMES A MONTH; DURING THE GROWING SEASON, APPROXIMATELY APRIL 1 - NOVEMBER 1.
    a. LAWN TO BE MAINTAINED AT A HEIGHT OF 2" - 2 $\frac{1}{2}$". NO MORE THAN 1" OF THE LEAF BLADE SHALL BE REMOVED AT ONE MOWING UNLESS OTHERWISE DIRECTED BY OWNER.
    b. AFTER EACH MOWING OPERATION, CONTRACTOR TO REMOVE VISIBLE BUILDUP OF GRASS CLIPPINGS.
    c. AFTER EACH MOWING OPERATION, CONTRACTOR TO PROMPTLY REMOVE GRASS CLIPPINGS FROM SIDEWALKS, STREETS, DRIVEWAYS AND GUTTERS. CLIPPINGS SHALL NOT BE ALLOWED TO REMAIN ON SUCH AREAS OVERNIGHT.
    d. FINISHED SURFACE OF MOWED GRASS TO BE EVEN WITHOUT RIDGES AND IRREGULARITIES.
    e. EACH MOWING CYCLE SHALL BE COMPLETED WITHIN TWO (2) DAYS.
    f. IN THE EVENT OF DROUGHT CONDITIONS WHICH NECESSITATE WATER CURTAILMENT, HEIGHT OF MOWING SHALL INCREASE TO THREE (3) INCHES AND FREQUENCY DECREASED AS APPROVED BY THE OWNER'S REPRESENTATIVE.
12. FERTILIZATION OF LAWN AREAS TO BE ACCOMPLISHED EVERY 6 WEEKS AFTER PLANTING WITH ONE (1) POUND OF ACTUAL NITROGEN PER 1000 SQUARE FEET. LAWN AREAS TO BE TESTED FOR REQUIREMENTS AT SECOND GROWING SEASON.
13. FERTILIZATION OF TREES, SHRUBS, AND GROUNDCOVERS TO BE ACCOMPLISHED DURING APRIL OR MAY AFTER PLANTING.
    a. TREES 2 $\frac{1}{2}$" CALIPER OR GREATER - 1 POUND OF FERTILIZER
    b. TREES LESS THAN 2 $\frac{1}{2}$" CALIPER - 1/2 POUND OF FERTILIZER
    c. SHRUBS - 1 POUND OF FERTILIZER PER 1000 SQUARE FEET OF BED AREA
14. LAWN AREAS TO BE EDGED WHERE AREAS MEET OTHER NON-LAWN SURFACES EVERY OTHER MOWING.
15. PEST, INSECTS, AND DISEASE CONTROL TO BE ACCOMPLISHED BY CERTIFIED PERSONNEL TO MAINTAIN LAWN AREA AND PLANTING IN A HEALTHY CONDITION. APPLICATION SHOULD BE PERFORMED AT A TIME THAT PUBLIC AND TENANT WILL NOT BE IN CONTACT OR HAVE ANY REAL OR IMAGINED HARM AND ONLY DURING TIMES OF FAVORABLE WEATHER.
16. REPAIR OF DAMAGED LAWN AREAS TO BE DONE BY TOP DRESSING WITH TOPSOIL AND RE-VEGETATION. REPAIR OPERATION SHALL INCLUDE ALL TEMPORARY PROTECTION BARRIERS AND SIGNS AS NECESSARY.
17. LAWN AREAS TO BE DETHATCHED A MINIMUM OF ONCE (1) PER YEAR.
18. AREAS AROUND TREES AND SHRUB BEDS SHOULD BE CULTIVATED AND FREED OF ALL GRASS AND WEED GROWTH. DURING THE GROWING SEASON, AREAS SHOULD BE WEEDED EACH TIME LAWN IS MOWED. WEEDS MAY BE CHEMICALLY REMOVED AND/OR CONTROLLED.
19. PRUNING OF TREE AND SHRUB BROKEN AND DEAD BRANCHES TO BE ACCOMPLISHED AT LEAST ONCE A YEAR. PRUNING OPERATIONS TO BE ACCOMPLISHED IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL STANDARDS TO MAINTAIN NATURAL CHARACTER. CONTRACTOR TO REMOVE ALL DEBRIS CREATED BY PRUNING AS WORK PROCEEDS
20. ALL TRASH AND DEBRIS TO BE REMOVED FROM TREE AND SHRUB AREAS EACH TIME LAWN IS MOWED.
21. TREE AND SHRUB AREAS TO BE MULCHED AS NECESSARY TO MAINTAIN A 2" MULCH DEPTH.
22. IRRIGATION SYSTEM(S), MATERIAL, AND EQUIPMENT SHALL BE MAINTAINED IN OPERATIONAL CONDITION PER MANUFACTURER'S CURRENT RECOMMENDATIONS FOR MAXIMUM EFFICIENCY.
23. PAYMENT FOR MAINTENANCE OF PLANT MATERIAL AND SOD PRIOR TO FINAL ACCEPTANCE BY THE CITY SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE INSTALLATION OF PLANT MATERIAL OR SOD.
24. WHEN AN ADDITIONAL MAINTENANCE PERIOD IS REQUIRED BY THE BID DOCUMENTS, THE ENGINEER WILL REVIEW PAY APPLICATIONS SUBMITTED BY THE CONTRACTOR AND SHALL APPROVE PAYMENT BASED ON THE NUMBER OF MONTHS THAT ADDITIONAL MAINTENANCE IS REQUIRED AND IS PROPERLY PERFORMED.
25. PAYMENT WILL BE MADE ON A MONTHLY BASIS AT THE CONTRACT UNIT PRICE PER SPECIFIED PAY UNIT.
    - LANDSCAPE MAINTENANCE - PAY ITEM PER MONTH

11/ 20/ 2020

OKLAHOMA — Joe Howell — REGISTERED LANDSCAPE ARCHITECT — 10

LANDSCAPE SPECIFICATIONS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE

PLAN SCALE: AS SHOWN
PROFILE SCALE: HORIZONTAL: VERTICAL:

DRAWN	H&V	11/20/20	APPROVED:
DESIGNED	H&V	11/20/20	
SURVEY			
FIELD MGR.			
DEPT. MGR.	BDC	11/20	
PROJ. MGR.		11/2020	CITY ENGINEER
RECOMMENDED: DESIGN MANAGER	HAL	11-20	

FILE: DRAWING: LA100
DATE: 11/20/2020
ATLAS PAGE NO.: 35
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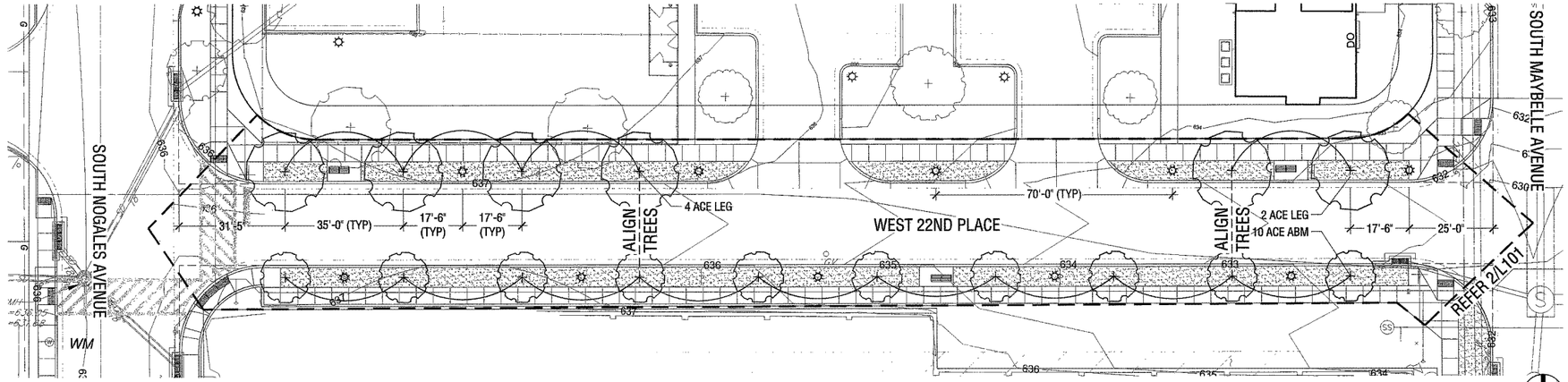
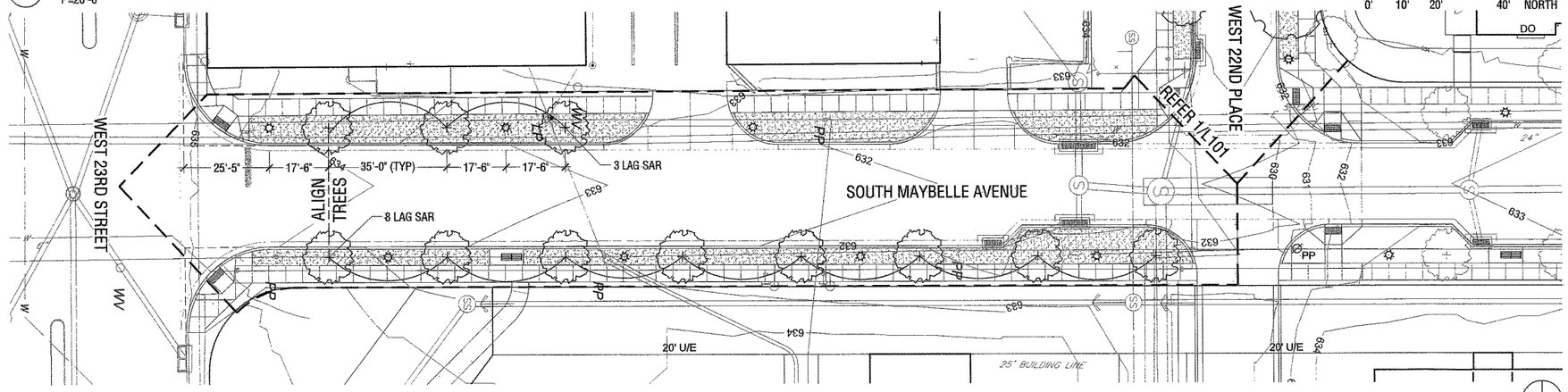


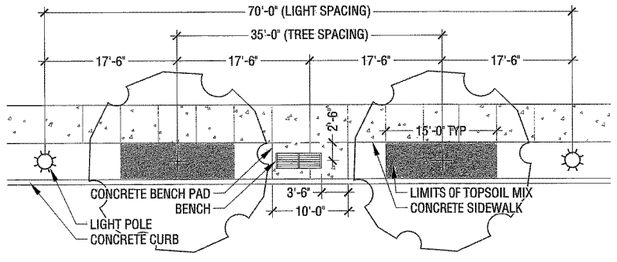
1 LANDSCAPE PLAN - W 22ND PLACE
1"=20'-0"



2 LANDSCAPE PLAN - S MAYBELLE AVENUE
1"=20'-0"

PLANTING NOTES

1. CONTRACTOR TO ASCERTAIN LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO EXCAVATION AND BE RESPONSIBLE FOR DAMAGE RESULTING FROM PLANTING OPERATIONS. REPAIRS SHALL BE MADE AT NO COST TO THE OWNER.
2. ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN ON THE PLAN OR SURVEY. CONTACT THE LOCAL UTILITY LOCATION SERVICES PRIOR TO COMMENCING CONSTRUCTION OPERATIONS.
3. AREAS BETWEEN CURB AND SIDEWALK AND ALL OTHER AREAS ON SITE WHICH ARE NOT OTHERWISE DESIGNATED AND ARE DAMAGED BY CONSTRUCTION, ARE TO BE PLANTED WITH SOLID SOD BERMUDA GRASS.
4. A MINIMUM OF 6" OF TOPSOIL SHALL BE BE PLACED IN ALL AREAS THAT ARE TO BE PLANTED WITH SOD.
5. FIELD STAKE LOCATIONS OF PROPOSED TREES AND LIGHTS FOR REVIEW AND APPROVAL BY ENGINEER OR LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR AT LEAST 10 WORKING DAYS FOR STAKING REVIEW PRIOR TO DELIVERY OF TREES.
6. PLANT SPECIES AND SIZE SUBSTITUTIONS TO BE SUBMITTED TO LANDSCAPE ARCHITECT FOR APPROVAL A MINIMUM OF 30 DAYS BEFORE PLANTING OPERATIONS.
7. FOR ADDITIONAL PLANTING REQUIREMENTS REFER TO SPECIFICATIONS.
8. BY SUBMITTING A BID, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS VISITED THE SITE AND BECOME FAMILIAR WITH THE CONDITIONS RELATED TO THE INSTALLATION OF SITE IMPROVEMENTS.



NOTES
1. TREE AND LIGHT SPACING TO BE AS SHOWN ABOVE UNLESS OTHERWISE NOTED ON PLANS.
2. ALL TREES BEHIND CURBS SHALL RECEIVE MINIMUM 15'x5' BY 30" DEPTH TOPSOIL AREA UNLESS OTHERWISE NOTED.
3. BENCH EQUAL TO "CITYVIEW CV1-1101 STEEL BENCH" AS MANUFACTURED BY SITESCAPES INC. www.sitescapesonline.com AND SURFACE MOUNTED PER MANUFACTURER'S RECOMMENDATIONS.
4. BENCH TO BE 6' IN LENGTH WITH CENTER ARMREST. COLOR TO BE BLACK.
5. SUBMIT BENCH PRODUCT CUTSHEET FOR APPROVAL BY OWNER'S REPRESENTATIVE.
6. BENCH TO BE 2'-6" ON CENTER FROM EDGE OF SIDEWALK WITH 3'-6" CLEAR AREA ON THE INCOMING TRAFFIC SIDE OF BENCH AS SHOWN.
7. IN LANDSCAPE STRIPS 7' WIDE OR LESS, CONCRETE BENCH PAD TO EXTEND FROM SIDEWALK TO CURB AS SHOWN ABOVE. REFER PLAN FOR SPECIFIC LOCATIONS.
8. IN LANDSCAPE STRIPS OVER 7' WIDE, CONCRETE BENCH PAD TO BE 5'x10' WITH SAME CONFIGURATION AS SHOWN ABOVE.

4 STREETSCAPE SPACING AND FURNISHING
1"=10'-0"

LEGEND

SOLID SOD BERMUDA LAWN

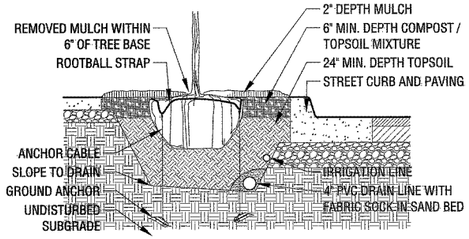
DECORATIVE LIGHT. REFER ELECTRICAL DRAWINGS

LIMITS OF WORK

PLANT LIST

KEY	QUAN	UNIT	NAME	SIZE	ROOT BALL
ACE ABM	10	EA.	ACER BUERGERIANUM 'ABMTF' AERYN TRIDENT MAPLE	12' H 2.5" CP	B&B (BS)
ACE LEG	6	EA.	ACER SACCHARUM 'LEGACY' LEGACY SUGAR MAPLE	14' H 3" CP	B&B
LAG SAR	11	EA.	LAGERSTROEMIA INDICA x FAUERI 'SARAHS FAVORITE' SARAH'S FAVORITE CRAPEMYRTLE (SINGLE TRUNK)	12' H 2.5" CP	B&B

1. H: HEIGHT, CP: CALIPER, C: CONTAINER, MT: MULT-TRUNK
2. TREES SPECIES PHYSICAL CHARACTERISTICS TO BE SIMILAR. ALL DIMENSIONS TO BE WITHIN 5% RANGE.
3. QUANTITIES ON PLANT LIST ARE FOR CONVENIENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL PLANTS SHOWN ON PLANTING PLANS AND COVERAGE OF ALL AREAS DELINEATED. WHEN DISCREPANCIES OCCUR BETWEEN PLANT LIST AND PLANTING PLANS, THE PLANS ARE TO SUPERSEDE THE PLANT LIST.
4. ALL TREES TO HAVE A SINGLE CENTRAL LEADER AND PRUNED ABOVE 6' CLEAR UNLESS OTHERWISE NOTED.
5. TREES NOTED WITH (BS) TO BE EQUAL TO THOSE FROM BOLD SPRINGS NURSERY. www.boldspring.com



NOTES
1. REFER TO LANDSCAPE PLANS FOR LAYOUT.
2. DRAIN LINE TO BE PERFORATED PVC PIPE WITH FREE-DRAINING FABRIC SOCK IN COURSE SAND BED. REFER TO CIVIL FOR LOCATIONS AND CONNECTIONS TO STORM.
3. ALL TREES BEHIND CURBS SHALL RECEIVE MINIMUM 15'x5' BY 30" DEPTH TOPSOIL AREA UNLESS OTHERWISE NOTED. SUBGRADE TO BE SCARIFIED BEFORE PLACEMENT.
4. MULCH AREA AROUND TREES TO BE 5' DIAMETER. NARROW PLANTING AREAS TO BE SQUARED OFF 5'x5'. NO STEEL EDGING IS REQUIRED.
5. EXPOSED ROOTFLARE (TOP OF ROOTBALL) TO BE 1"-2" ABOVE SURROUND GRADE.
6. REMOVE ALL ROPE, BURLAP AND TOP RING OF WIRE BASKET FROM TOP OF ROOTBALL.
7. GROUND ANCHORS TO BE EQUAL TO "MODEL 88 RPK" AS MANUFACTURED BY MACLEAN CIVIL PRODUCTS. www.earthanchor.com ANCHORS TO BE DRIVEN TO 24" MINIMUM DEPTH INTO COMPACTED SUBGRADE.
8. COMPOST TO BE EQUAL TO BACK TO EARTH COMPOSTED COTTON BURS.
9. COMPOST TO BE INCORPORATED INTO UPPER 6" OF BACKFILL BY APPROVED MEANS AT THE RATE OF 8 CUBIC FEET (4-2CF BAGS) FOR EACH TREE PLANTING AREA.

3 TREE PLANTING ALONG STREET & PARKING
NTS

11/20/2020

BEFORE YOU DIG CALL OKIE 811

OKLAHOMA Joe Howell 10 REGISTERED LANDSCAPE ARCHITECT

LANDSCAPE SITE PLAN & DETAILS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
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~~SECT~~. MGR.	BOC	11/20/20
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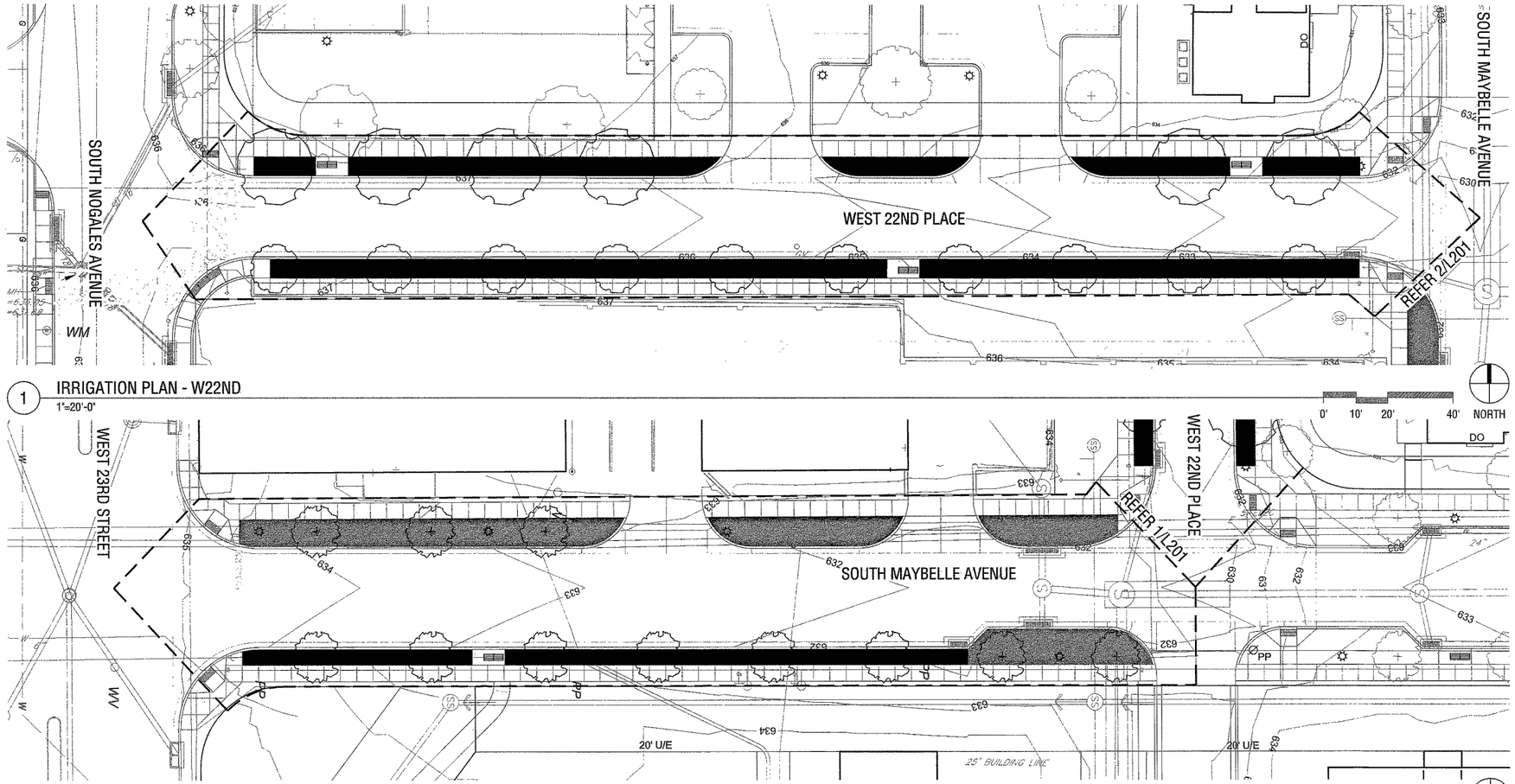
SHEET 64 OF 69 SHEETS



1 IRRIGATION PLAN - W22ND
1"=20'-0"

2 IRRIGATION PLAN - MAYBELLE
1"=20'-0"

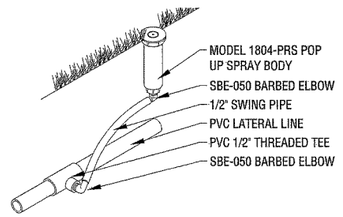
LEGEND

NARROW TURF AREAS 5' OR LESS TO BE (MPR - 15 STRIP SERIES NOZZLES)

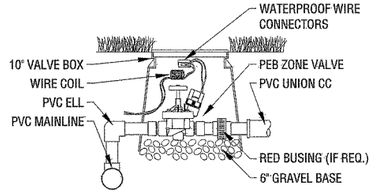
TURF AREAS WIDER THAN 5' TO BE STANDARD MPR NOZZLES ADJUSTED TO MINIMAL OVERSPRAY

NOTE

- IRRIGATION CONTRACTOR TO COORDINATE WORK WITH PREVIOUS PHASE(S) TO ALLOW EACH SEPARATE SYSTEM TO BE EXPANDED WITH SLEEVES UNDER PAVING AS NECESSARY.
- EAST SIDE OF MAYBELLE IRRIGATION TO BE AN EXTENSION OF IRRIGATION SYSTEM TO THE NORTH AS SHOWN IN PREVIOUS CONTRACT OF PHASE I.
- BOTH SIDES OF WEST 22ND PLACE AND THE WEST SIDE OF SOUTH MAYBELLE AVENUE TO BE INCORPORATED INTO "STEETSCAPE IRRIGATION SYSTEM #4" AS DEFINED IN PREVIOUS CONTRACT OF PHASE I.



3 4" POP-UP TURF SPRAY
NTS



4 ZONE VALVE ASSEMBLY
NTS

IRRIGATION NOTES & SPECIFICATIONS

1. CONTRACTOR TO ASCERTAIN LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO EXCAVATION AND BE RESPONSIBLE FOR DAMGE RESULTING FROM IRRIGATION OPERATIONS.
2. ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN ON THE PLAN OR SURVEY. CONTACT THE LOCAL UTILITY LOCATION SERVIES PRIOR TO COMMENCING CONSTRUCTION OPERATIONS.
3. CONTRACTOR SHALL VERIFY LOCATION OF IRRIGATION POINT OF CONNECTION. IT IS INTENDED FOR IRRIGATION SYSTEM(S) SOWN ON PREVIOUS CONTRACT CONSTRUCTION DOCUMENTS TO CONNECT AREAS / ZONES SHOWN ON THIS SHEET.
4. IRRIGATION SYSTEM(S) SHALL BE INSTALLED PER THE CITY OF TULSA CODES.
5. WORK TO INCLUDE DESIGN AND INSTALLATION OF AUTOMATIC LAWN SPRINKLER SYSTEM(S) PER THIS PLAN AND CITY OF TULSA STANDARD DETAILS.
6. LANDSCAPE STRIPS EACH SIDE OF STREET(S) TO BE ZONED SEPARATELY.
7. IRRIGATION SYSTEM SHALL CONSIST OF AN ELECTRIC SOLENOID CONTROLLED UNDERGROUND SPRINKLER SYSTEM OF PVC PPE AND FITTINGS, WITH FIXED AND POP-UP HEADS IN A MULTI-STATION SYSTEM, PROGRAMMED AS APPROVED BY THE OWNER'S REPRESENTATIVE.
8. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL ALL SLEEVES ON THE PROJECT. SLEEVES SHALL BE SIZED TWO (2) TIMESTHE NOMINAL DIAMETER OF THE LARGEST PIPE PASSING THROUGH THE SLEEVE. MINIMUM SLEEVE SIZE SHALL BE 2". SLEEVES SHALL BE INSTALLED AT A MINIMUM COVER DEPTH OF EIGHTEEN (18") FROM FINISHED GRADE. COORDINATE HORIZONTAL AND VERTICAL ELEVATIONS WITH UTILITIES AND FOOTINGS. A SEPARATE MINIMIM 2" DIAMETER SLEEVE SHALL BE PROVIDED FOR THE CONTROL WIRES TO PASS THROUGH AT EACH CROSSING. THE CONTRACTOR SHALL RECEIVE THE OWNER'SREPRESENTATIVE'S APPROVAL FOR ALL REQUIRED BORES UNDER ROADS, PATHS AND SIDEWALKS.
9. ADJUST ALL HEADS TO MINIMIZE OVER SPRAY ONTO HARDSCAPE. USE PCS SCREENS AS NEEDED ON SPRAY HEADS WITH 5'-15' SERIES MPR SPRAY NOZZLES TO ADJUST OVER SPRAY. USE RADIUS ADJUSTMENT SCREW ON 5'-15' SERIES MPR SPRAY NOZZLES ONLY WHEN NECESSARY.
10. ALL SPRAY AND ROTARY HEADS SHALL BE INSTALLED PERPENDICULAR (90 DEGREES) TO FINISHED GRADE.
11. SPRAY SPRINKLER HEADS WITH CHECK VALVES SHALL BE REQUIRED TO PREVENT LOW HEAD DRAINAGE. CONTRACTOR SHALL INSTALL ADDITIONAL IN-LINE CHECK VALVES AS REQUIRED WHEN HEAD OF WATER IN UPSTREAM PIPE EXCEEDS THE CAPACITY OF DOWNSTREAM SPRINKLER HEAD CHECK VALVES.
12. CONTRACTOR TO SUBMIT IRRIGATION DESIGN(S) FOR REVIEW AND APPROVAL BY OWNER'S REPRESENTATIVE NO LESS THANFOUR (4) WEEKS PRIOR TO COMMENCING INSTALLATION OPERATIONS. THE DESIGN SHALL INCLUDE BUT IS NOT LIMITED TO PIPING LAYOUT, LOCATION AND COVERAGEOF SPRINKLER HEADS, NOZZLE SIZES AND TYPES, PLANT AND LANDSCAPING FEATURES, SITE STRUCTURES, LIST OF FITTINGS TO BE USED, AND CONTROL SYSTEM AND WIRING DIAGRAMS AND DATA; AND SHALL NOTE WATER PRESSURE AT THE PROJECT SITE.
13. UPON COMPLETION AND FINAL REVIEW OF SYSTEM BY OWNER'S REPRESENTATIVE, CONTRACTOR SHALL PROVIDE AS-BUILT IRAWINGS (REPRODUCIBLES) OF COMPLETED FACILITIES AS INSTALLED. DRAWINGS SHALL BE PROVIDED TO ARCHITECT IN A) ELECTRONIC FORM (AUTOCAD 2110 FORMAT) B) THREE (3) COPIES OF THE AS-BUILT DRAWING IN BLUELINE OR PHOTOCOPY FORM. AS-BUILT DRAWING SHALL SHOW THE MEASURED DISTANCE FROM IASILY IDENTIFIED, FIXED LOCATIONS TO ISOLATION VALVES, ELECTRIC CONTROL VALVES, MANUAL DRAIN VALVES AND WIRE SPLICES. TWO DIMENSIONS FROM FIXEDPOINTS PER LOCATION ARE REQUIRED.
14. UPON COMPLETION AND FINAL REVIEW OF SYSTEM BY OWNER'S REPRESENTATIVE, CONTRACTOR SHALL PROVIDE THREE (3) BINDERS CONTAINING MANUFACTURER'S INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS AS WELL AS A PARTS BREAKDOWN AND CATALOG FOR EACH PIECE OF EQUIPMENT INSTALLED ON THE PROJECT. AS A MINIMUM THE BINDERS SHALL INCLUDE INFORMATION FOR THE IRRIGATION CONTROLLER, BOOSTER PUMP, BACKFLOW PREVENTER, PRESSURE REGULATORS, ISOLATION VALVES, ELECTRIC CONTROL VALVES, DRAIN VALVES, AIR RELIEF VALVES, ALL SPRAY AND ROTARY SPRINKLER HEADS, RAIN AND FREEZE AND MOISTURE SENSORS.
15. IRRIGATION CONTRACTOR TO PROVIDE A RECOMMENDED SCHEDULE FOR RUN TIMES AND FREQUENCY OF WATERING FOR THE FIRST TWO WEEKS, THE FIRST TWO MONTHS, AND THE FIRST TWELVE MONTHS (INCLUDING ALL SEASONAL CHANGE REQUIREMENTS) AFTER COMPLETION OF ENTIRE SYSTEM.
16. CONTRACTOR TO INSTRUCT OWNER'S PERSONNEL IN OPERATION AND MAINTENANCE OF ENTIRE SYSTEM INCLUDING ADJUSTING OF SPRINKLER HEADS.
17. CONTRACTOR TO INSPECT IRRIGATION SYSTEM AT (2) AND (4) WEEKS AFTER DATE OF SUBSTANTIAL COMPLETION AND MAKE NECESSARY ADJUSTMENTS AT NO COST TO OWNER.
18. ENTIRE IRRIGATION SYSTEM TO BE UNCONDITIONALLY GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP, INCLUDING REPAIR OF SETTLING OF BACKFILLED AREAS BELOW GRADE AND ADJUSTING HEADS TO PROPER LEVEL FOR A PERIOD OF ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
19. ALL MINOR ADJUSTMENTS, ANY DEFECTIVE ELECTRICAL CONTROL VALVES, SPRINKLER HEADS OR OTHER WORKING PARTS SHALL BE REPAIRED OR REPLACED WITHOUT COST TO THE OWNER FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
20. ALL DAMAGE BY OTHERS DURING THE ONE-YEAR GUARANTEE PERIOD WILL BE OWNER'S RESPONSIBILITY.
21. ALL MATERIALS TO BE INCORPORATED IN THIS SECTION BE NEW AND OF THE BEST QUALITY.
22. ACCEPTABLE MANUFACTURERS:
    A: RAINBIRD B: WEATHER-MATIC
    C: HUNTER D: TORO
13. MAINLINE PIPING: 2' SCH. 40 PVC AT 18" MINIMUM DEPTH.
14. LATERAL PIPING: ALL LATERAL PIPES, DOWNSTREAM OF THE CONTROL VALVES, SHALL BE HAVE SOLVENT WELD JOINTS AND SHALL MEET THE LATEST REQUIREMENTS OF ASTM D 2241 STANDARD SPECIFICATION FOR POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPE WITH STANDARD DIMENSION RATIO (SDR) OF 21 AND A PRESSURE RATING (PR) OF 200 PSI. LATERAL PIPING TO BE INSTALLED AT 12" MINIMUM DEPTH.
15. ALL PIPING TO HAVE MAXIMUM VELOCITIES OF FIVE FEET PER SECOND.
16. ISOLATION GATE VALVES TO BE BRASS AND SAME SIZE OF MAINLINE. VALVES TO OCCUR AT BOTH SIDES OF ALL STREET CROSSINGS AND MAINLINE TEES TO ENSURE SYSTEM(S) REMAIN OPERATIONAL DURING OUTAGES AND REPAIRS.
17. VALVE BOXES FOR AUTOMATIC CONTROL VALVES TO BE EQUAL TO CARSON INDUSTRIES MODEL 1419-3 WITH 1419-6X EXTENSIONS.
18. SET VALVE BOX COVERS LEVEL AT FINISH GRADE. RECTANGULAR VALVE BOXES TO BE PLACED PARALLEL TO NEARBY CURBS AND WALKS OR OTHER IMPROVEMENTS. VALVES AND VALVE BOXES SHALL BE INSTALLED WHERE SHOWN OR DIRECTED, AND SHALL BE SET PLUMB. VALVE BOXES SHALL BE CENTERED ON THE VALVES. WHERE FEASIBLE, VALVES SHALL BE LOCATED OUTSIDE THE AREA OF NATURAL WALKWAYS OR PATHS AND SHALL BE PLACED IN GROUNDCOVER AREAS WHERE POSSIBLE. EARTH FILL SHALL BE CAREFULLY TAMPED AROUND EACH VALVE BOX. VALVE BOXES SHOULD BE SUPPORTED OR BLOCKED SUCH THAT ANY SURFACE LOADS ON THE VALVE BOXES WILL NOT BE TRANSMITTED BELOW TO THE PIPE OR VALVES. WASHED GRAVEL SUMPS SHALL BE PROVIDED BELOW ALL VALVE BOXES TO PERMIT DRAINAGE OF WATER AWAY FROM VALVES. MINIMUM DEPTH OF GRAVEL SUMP IS 8 INCHES.
19. IRRIGATION CONTROLLER AND BACKFLOW PREVENTER TO BE IN A CITY OF TULSA STANDARD IRRIGATION ENCLOSURE. REFER TO DIVISION 8 - STREETSCAPE SPECIFICATIONS NO. 840 - 842 FOR MORE INFORMATION. REFER TO CIVIL DRAWINGS FOR ENCLOSURE LOCATION.
20. WIRE FOR COMMUNICATION BETWEEN THE CONTROLLER AND DECODERS SHALL BE 14-2 GAUGE MAXI-CABLE AS REQUIRED FOR THE DECODER SYSTEM.
21. ENVIRONMENTAL SENSORS TO BE EQUAL TO RAINBIRD WR2 RAIN/FREEZE SENSOR. MOUNT SENSOR AT INCONSPICUOUS LOCATION APPROVED BY OWNER'S REPRESENTATIVE USING MANUFACTURER'S RECOMMENDATIONS.
22. INSTALL AUTOMATIC DRAIN VALVES AT ALL LOW SECTIONS OF LATERAL PIPING (LINES DOWNSTREAM FROM VALVES) TO ENSURE COMPLETE DRAINAGE OF SYSTEM WHEN NOT IN USE. WRAP EACH VALVE WITH APPROVED FILTER FABRIC.
23. UPON COMPLETION OF THE IRRIGATION SYSTEM INSTALLATION INCLUDING ALL PRESSURE TESTS, CONTRACTOR SHALL CONDUCT A PERFORMANCE TEST OF THE COMPLETE SYSTEM TO INSURE THAT ALL COMPONENTS ARE FUNCTIONING PROPERLY. PERFORMANCE TEST SHALL CONSIST OF OPERATING THE SYSTEM THROUGH A COMPLETE IRRIGATION CYCLE PER DAY FOR TWO (2) CONSECUTIVE DAYS. CONTRACTOR SHALL BE AT THE SITE TO MONITOR THE PERFORMANCE TESTS AND MAKE ANY ADJUSTMENTS AND CORRECTIONS AS NEEDED DURING THE TESTING PERIOD.

11/20/2020

BEFORE YOU DIG OKIE CALL OKIE

OKLAHOMA Joe Howell REGISTERED LANDSCAPE ARCHITECT

IRRIGATION SITE PLAN & DETAILS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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PROJ. MGR.	HAS	11/2020
RECOMMENDED: DESIGN MANAGER	HAS	11-20

APPROVED:
CITY ENGINEER

FILE: DRAWING: LA201
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 65 OF 69 SHEETS

GENERAL ELECTRICAL NOTES

1	DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW ALL GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS.
10	ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE, STATE LAWS, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
11	THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIAL, AND LABOR TO SATISFY A COMPLETE AND WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
12	CONTRACTOR TO CONFIRM EXACT LOCATION OF EXISTING AND NEW EQUIPMENT.
13	THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING SYSTEMS (AS REQUIRED) IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
14	ALL ELECTRIC MATERIALS AND EQUIPMENT FOR THE PROJECT SHALL BE NEW AND U.L. OR EQUALLY LISTED.
15	SUBMIT TO THE OWNER CERTIFICATES OF INSPECTIONS IN DUPLICATE FROM AN APPROVED INSPECTION AGENCY UPON COMPLETION.
16	THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES AS REQUIRED.
17	THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS AND QUALIFIED PERSONNEL OR FIRM TO PERFORM ALL REQUIRED TESTS.
18	NO EQUIPMENT SHALL BE ENERGIZED UNTIL ALL TEST AND ADJUSTMENTS HAVE BEEN MADE. THREE COPIES OF ALL TEST RESULTS SHALL BE DELIVERED TO THE OWNER
21	FIELD VERIFY LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT, INCLUDING POWER POLES, TELEPHONE PEDESTALS, OVERHEAD AND UNDERGROUND FEEDERS, METERS, PANELS, DEVICES, ETC. PROVIDE FOR COORDINATION WITH EXISTING EQUIPMENT.
22	CONDUCTORS FOR BRANCH CIRCUITS AS DEFINED IN ARTICLE 100, SHALL BE SIZED TO PREVENT A VOLTAGE DROP EXCEEDING 3% AT THE FARTHEST LOAD, AND WHERE THE MAXIMUM TOTAL VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST LOAD DOES NOT EXCCED 5%.
24	UNLESS NOTED OTHERWISE PROVIDE MINIMUM #8 AWG CONDUCTORS IN 1" CONDUIT(S) FOR ALL UNDERGROUND SITE POWER AND LIGHTING CIRCUITS. INCREASE CONDUCTOR AND RELATED CONDUIT SIZE AS NOTED OR OTHERWISE REQUIRED TO LIMIT VOLTAGE DROP TO LESS THAN 5% FOR THE ENTIRE LENGTH OF SYSTEM.
25	THE TYPE OF CONDUIT SHALL BE AS FOLLOWS FOR ALL FEEDERS AND DISTRIBUTION CIRCUITS, UNLESS OTHERWISE SPECIFIED. APPLICATION - TYPE OF CONDUIT BURIED IN CONCRETE OR OUTDOORS - PVC WITH RIGID GALVANIZED STEEL ELBOWS SERVICE ENTRANCE - GALVANIZED RIGID STEEL OR SERVICE UTILITY SPECIFICATIONS.
33	ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING COVER PLATES AT ANY UNUSED OPENINGS OR JUNCTION BOXES FOR ELECTRICAL AND LOW VOLTAGE BACK BOXES.

ABBREVIATIONS

AC	ABOVE COUNTER	MCC	MOTOR CONTROL CENTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER	NEC	NATIONAL ELECTRICAL CODE
AFF	ABOVE FINISHED FLOOR	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
E	EXISTING	NL	NIGHT LIGHT
EC	ELECTRICAL CONTRACTOR	TR	TAMPER RESISTANT
EP	EXPLOSION PROOF	UG	UNDERGROUND
GFI	GROUND FAULT CIRCUIT INTERRUPTER	UON	UNLESS OTHERWISE NOTED
GR	GROUND	WP	WEATHERPROOF
HP	HORSE POWER	WR	WEATHER RESISTANT
IG	ISOLATED GROUND		

WIRING

WIRING CONCEALED IN CEILING OR WALLS UON. ALL WIRE IS NUMBER #12 AWG MINIMUM.

EXPOSED RACEWAY.

UNDERGROUND RACEWAY; TYPE, SIZE, CONDUCTORS, AND ARRANGEMENT BY NOTATION OR SCHEDULE.

SYMBOLS AND LEGEND

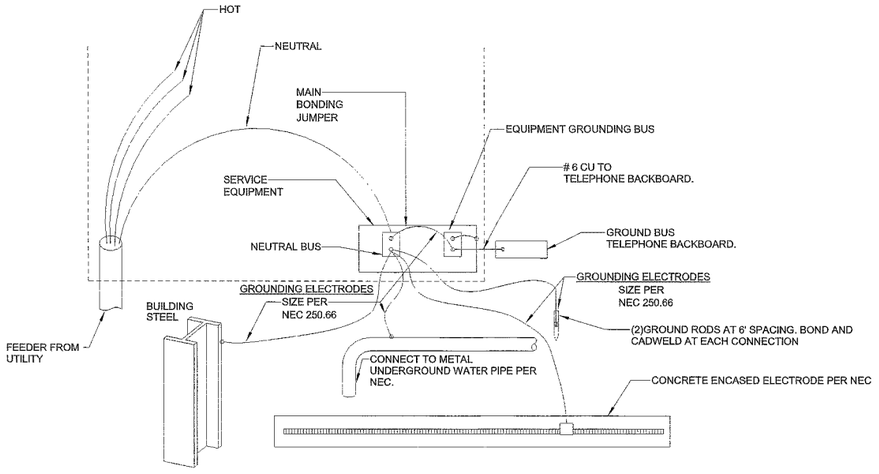
- $* SWITCH
- DUPLEX RECEPTACLE (NEMA 5-20R)
- GFI DUPLEX RECEPTACLE (NEMA 5-20R)
- DIRECT EQUIPMENT CONNECTION: VERIFY CONNECTION DETAILS WITH MANUFACTURER
- POWER PANEL/ ENCLOSURE
- J JUNCTION BOX.
- EQUIPMENT DISCONNECT: INTERIOR DISCONNECTS SHALL BE NEMA 1 TYPE. EXTERIOR DISCONNECTS SHALL BE NEMA 3R TYPE. SIZE AS INDICATED IN THE PLANS AND PER NAMEPLATE RATING.
- SINGLE HEAD POLE LIGHT. COORDINATE WITH PSO ON EXACT SPECIFICATIONS.

GENERAL POWER NOTES

1	ALL RECEPTACLES SHALL BE GROUNDING TYPE.
2	ALL RECEPTACLES INSTALLED OUTDOORS SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
3	DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL, FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT.
4	CONTRACTOR SHALL NOT SHARE NEUTRALS.

EXISTING ELECTRICAL AND DEMOLITION NOTES

1	PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE FACILITY AND RELATED SITE. REVIEW THE GENERAL NOTES AND ALL OTHER TRADE DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS SPECIFIED, OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMITTING BID.
2	ANY EXISTING CONDITIONS REFLECTED WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS AND CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.
3	COORDINATE INTERUPTION OF ALL SERVICES INCLUDING BUT NOT LIMITED TO BRANCH CIRCUITS, DATA, TELEPHONE, ETC WITH OWNER PRIOR TO INTERUPTION. PROVIDE LABOR AND MATERIALS AS REQUIRED TO REDUCE INTERUPTIONS IN ORDER TO MAINTAIN EXISTING OPERATION.
4	REPAIR ANY DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
5	UNLESS NOTED OTHERWISE, ABANDONED CONDUIT ASSEMBLIES SERVING DEMOLISHED DEVICES SHALL BE REMOVED BACK TO NEAREST JUNCTION BOX OUTSIDE OF AREA OF DEMOLITION AND LABLED AS REQUIRED FOR FUTURE USE. ASSOCIATED WIRING SHALL BE REMOVED BACK TO SERVING PANELBOARD, UPDATE PANELBOARD CIRCUIT DIRECTORY AS REQUIRED TO INDICATE RELATED CIRCUIT(S) AS "SPARE".
6	ALL CIRCUIT BREAKERS SERVING BRANCH CIRCUITS TO BE REMOVED SHALL REMAIN IN RESPECTIVE PANELBOARD FOR FUTURE USE UNLESS NOTED OTHERWISE.



1 TYPICAL GROUNDING DETAIL
N.T.S.

BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

LICENSED PROFESSIONAL ENGINEER JEFF BAYS 28075 OKLAHOMA 11-18-2020
CA5338(PE)

ELECTRICAL NOTES AND LEGEND

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

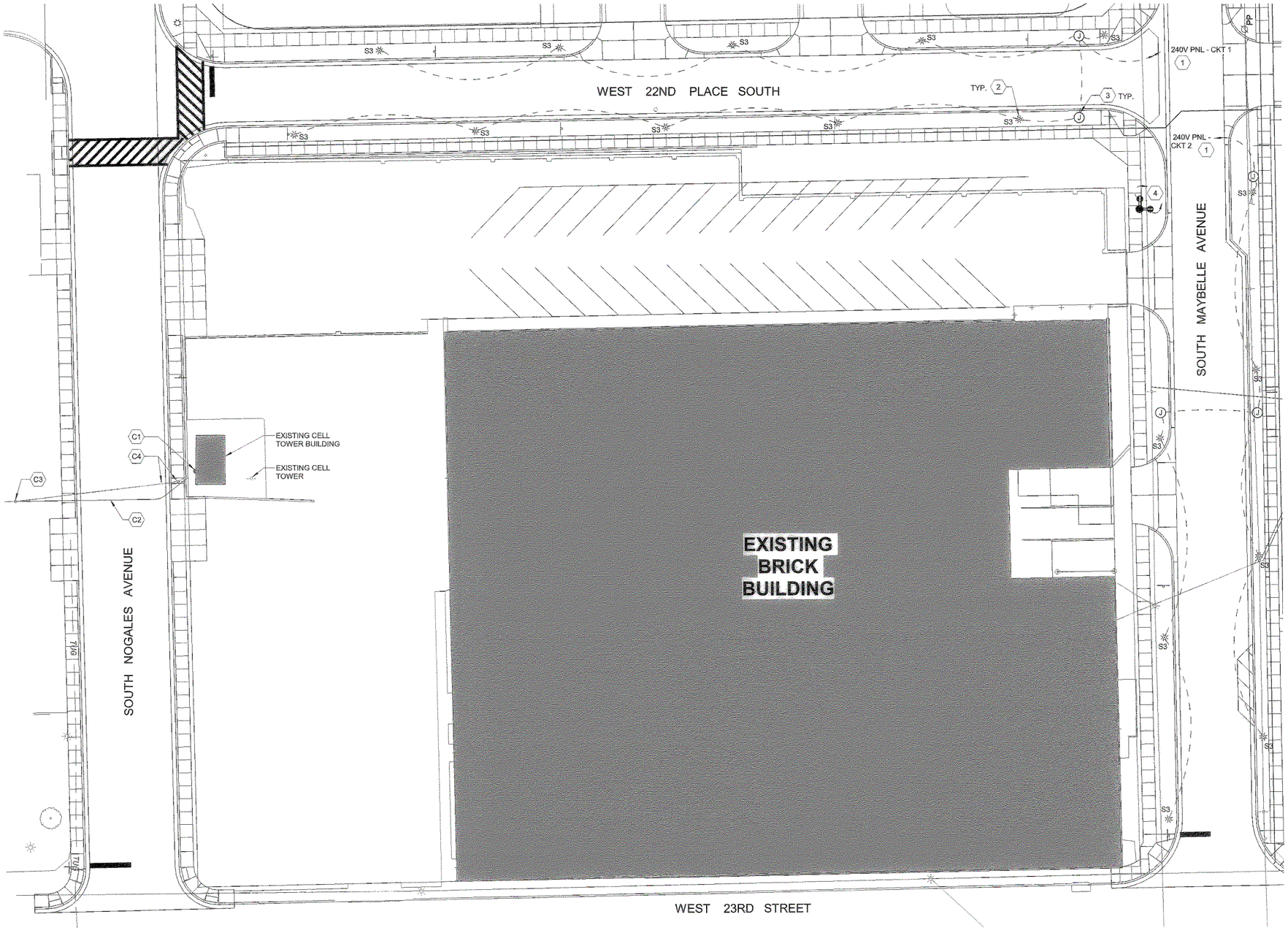
REVISION	BY	DATE
△		

PLAN SCALE: AS SHOWN
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	RG	11/20/20
DESIGNED	JB	11/20/20
SURVEY		
PROJ MGR.		
LEAD MGR.		
FIELD MGR.		
RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER

FILE: DRAWING: E001
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 66 OF 69 SHEETS



1 PARTIAL ELECTRICAL SITE PLAN - WEST 22N› PLACE - CONTRACT 4
3/64" = 1'-0"

GENERAL NOTES

A) ALL LIGHTING SHALL MEET CITY OF TULSA GENERAL STANDARDS, UNLESS OTHERWISE NOTED IN DRAWINGS FOR SPECIFIC REASON.

B) ALL SITE LIGHTING POLES AND FIXTURES SHALL BE SELECTED, PROVIDED AND INSTALLED BY PSO.

C) ALL UNDERGROUND CONDUITS FOR ELECTRICAL WIRING SHALL BE INSTALLED 24"- 36" BELOW GRADE.

D) COORDINATE WITH PSO IF CONDUIT SIZES HAS TO BE ADJUSTED BASED ON VOLTAGE DROP AND FINAL ROUTING IN FIELD. CONTRACTOR SHALL INCLUDE ALL ASSOCIATED COSTS IN BASE BID.

(#) KEYNOTES

1) CONTRACTOR TO PROVIDE CONDUITS FOR WIRING SITE LIGHTING. ALL STREET LIGHTING CONDUITS SHALL BE UNDERGROUND AND 2" CONDUITS. INSTALL A TRAFFIC RATED IN GRADE JUNCTION BOX TO EXCEPT THE 2" CONDUITS ADJACENT TO EACH SITE LIGHTING POLE LOCATION. PROVIDE A 1" CONDUIT WITH PULL STRING, FROM THE INGRADE JUNCTION BOX TO THE CENTER OF THE SITE LIGHTING POLE AND STUB UPTO THE HEIGHT OF THE HAND-HOLE WITTHIN THE SITE LIGHTING POLE. CONDUIT SHALL BE CONCEALED FROM PUBLIC VIEW. COORDINATE EXACT INSTALLATION REQUIREMENTS WITH PSO PRIOR TO CONDUIT INSTALLATION.

PSO SHALL PROVIDE ALL UNDERGROUND WIRING. CIRCUIT TO THE NEAREST AVAILABLE 240V PANEL, RECOMMENDED LOCATION TO BE PANEL 'LS2' LOCATED SOUTH OF RIVER WEST PARK AT WEST 22ND STREET. COORDINATE EXACT LOCATION AND ROUTING WITH CIVIL ENGINEER AND PSO PRIOR TO INSTALLATION.

2) PSO SHALL PROVIDE SITE LIGHT, LIGHT POLES AND LIGHTING CONTROLS.

3) WHERE DISTANCE BETWEEN LIGHT POLE CONDUIT EXCEEDS 180 FEET, PROVIDE AND INSTALL 12"x18" WEATHERPROOF, TRAFFIC RATED BOTTOM-LESS QUAZITE BOX UNDERGROUND AT EVERY 180 FEET OF THE ELECTRIC CONDUIT RUN. PROVIDE A SIMILAR JBOX AT SREET CROSSINGS FOR EASE OF PULLING WIRES. TYPICAL FOR ALL J-BOXES SHOWN IN THIS PLAN; EXACT LOCATION SHALL BE COORDINATED AS NEEDED WITH OTHER DISCIPLINES.

4) PROVIDE 120V POWER FOR BACKFLOW PREVENTER HEAT TRACE AND IRRIGATION CONTROLLER. CONNECT TO THE NEAREST AVAILABLE 120V PANEL. COORDINATE EXACT LOCATION WITH LANDSCAPE PLANS PRIOR TO ROUGH-IN.

(#) CELL TOWER KEYNOTES

C1) COORDINATE WITH PSO TO PROVIDE NEW METER CAN IN THE CELL TOWER BUILDING AT THE DIRECTION OF PSO, SO THAT EXISTING OVERHEAD FEED TO THE BUILDING SHALL BE REMOVED AND NEW UNDERGROUND FEEDER SHALL BE PROVIDED. COORDINATE EXACT LOCATION OF METER CAN WITH OWNER.

C2) INSTALL 4" UNDERGROUND CONDUIT FROM THE UTILITY POLE IN THE WEST SIDE OF "NOGALES" STREET AND ACROSS THE STREET TO TERMINATE AT NEW METER CANS LOCATED IN THE CELL TOWER BUILDING PER UTILITY SPECIFICATION. COORDINATE WITH PSO FOR FINAL SIZE OF CONDUITS. CONTRACTOR SHALL PROVIDE ALL TRENCHING AND CONDUITS. PSO SHALL PROVIDE ALL CONDUCTORS.

COORDINATE EXACT LOCATION AND ROUTING OF UNDERGROUND CONDUITS WITH CIVIL ENGINEER AND PSO PRIOR TO INSTALLATION, WITHOUT REMOVING EXISTING FENCE AROUND THE CELL TOWER.

C3) EXISTING UTILITY POLE WEST OF 'NOGALES ST' TO REMAIN.

C4) CONTRACTOR SHALL COORDINATE WITH PSO AND REMOVE EXISTING UTILITY POLE IN THE EAST SIDE OF 'NOGALES STREET' CLOSE TO CELL TOWER BUILDING AND EXISTING OVERHEAD FEED TO CELL TOWER ACROSS 'NOGALES STREET' TO ALLOW ROOM FOR NEW SIDEWALK.

ALL NEW ELECTRICAL UTILITY INFRASTRUCTURE SHALL BE SET IN PLACE PRIOR TO REMOVAL OF EXISTING POWER FROM CELL TOWER.

THERE SHALL BE TEMPORARY POWER OUTAGE DURING THIS TRANSFER OF ELECTRICAL FEED FROM OVERHEAD TO UNDERGROUND. MAINTAINING THE OPERATION OF CELL TOWER SHALL BE CRITICAL. CONTRACTOR TO PROVIDE TEMPORARY GENERATOR TO REDUCE DOWNTIME AS MUCH AS POSSIBLE. ALL DOWNTIMES SHALLL BE COORDINATED WITH CELL TOWER OWNER AND PSO TO KEEP DOWNTIME TO A MINIMUM.

LICENSED PROFESSIONAL ENGINEER
JEFF BAYS
28075
OKLAHOMA
CA5538(PE) 11-18-2020

ELECTRICAL SITE PLAN

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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BEFORE YOU DIG 1-800-522-OKIE CALL OKIE

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REVISION	BY	DATE
△		

PLAN SCALE: AS SHOWN
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	RG	11/20/20
DESIGNED	JB	11/20/20
SURVEY		
PROJ MGR.	[illegible]	11/2020
LEAD MGR.	BAO	11-20
FIELD MGR.		
RECOMMENDED:	HAS	11-20
DESIGN MANAGER		

APPROVED:
CITY ENGINEER

FILE: DRAWING: E101
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 67 OF 69 SHEETS

SECTION 26A GENERAL ELECTRICAL REQUIREMENTS
Rev - 20150422

26A 1 GENERAL INSTRUCTIONS

26A 1-1 GENERAL REQUIREMENTS
Requirements under Division 1 and the general and supplementary conditions of these specifications apply to this section and division. Where the requirements of this section and division exceed those of Division 1, this section and division take precedence. Become thoroughly familiar with all their contents as to requirements that affect this division, section or both. The work required under this section includes material, equipment, appliances, transportation, services, and labor required to complete the entire system as required by the drawings and specifications, or reasonably inferred to be necessary to facilitate each system's functioning as implied by the design and the equipment specified.

The specifications and drawings for the project are complementary, and portions of the work described in one, shall be provided as if described in both. In the event of discrepancies, notify the engineer and request clarification prior to proceeding with the work involved.

Drawings are graphic representations of the work upon which the contract is based. They show the materials and their relationship to one another, including sizes, shapes, locations, and connections. They also convey the scope of work, indicating the intended general arrangement of the equipment and other materials without showing all of the exact details as to elevations, offsets, control lines, and other installation requirements. Use the drawings as a guide when laying out the work and to verify that materials and equipment will fit into the designated spaces, and which, when installed per manufacturers' requirements, will ensure a complete, coordinated, satisfactory and properly operating system. Determine exact locations by job measurements, by checking the requirements of other trades, and by reviewing all contract documents. Correct errors that could have been avoided by proper checking and inspection, at no additional cost to the owner.

Specifications define the qualitative requirements for products, materials, and workmanship upon which the contract is based.

26A 1-2 DEFINITIONS

Whenever used in these specifications or drawings, the following terms shall have the indicated meanings:

Furnish: "to supply and deliver to the project site, ready for unloading, unpacking, assembling, installing, and similar operations."

Install: "to perform all operations at the project site, including, but not limited to, and as required: unloading, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, testing, commissioning, starting up and similar operations, complete, and ready for the intended use."

Provide: "to furnish and install complete, and ready for the intended use."

Furnished by owner (or owner-furnished) or furnished by others: "an item furnished by the owner or under other divisions or contracts, and installed under the requirements of this division, complete, and ready for the intended use, including all items and services incidental to the work necessary for proper installation and operation. Include the installation under the warranty required by this division.

Engineer: where referenced in this division, "engineer" is the engineer of record and the design professional for the work under this division, and is a consultant to, and an authorized representative of, the architect, as defined in the general and/or supplementary conditions. When used in this division, it means increased involvement by, and obligations to, the engineer, in addition to involvement by, and obligations to, the "architect".

AHJ: the local code and/or inspection agency (authority) having jurisdiction over the work.

NRTL: nationally recognized testing laboratory, as defined and listed by OSHA in 29 CFR 1910.7 (e.g., UL, ETL, CSA), and acceptable to the AHJ over this project.

The terms "approved equal", "equivalent", or "equal" are used synonymously and shall mean "accepted by or acceptable to the engineer as equivalent to the item or manufacturer specified". The term "approved" shall mean labeled, listed, certified, or all three, by an NRTL, and acceptable to the AHJ over this project.

26A 1-3 PRE-BID SITE VISIT

Prior to submitting bid, visit the site of the proposed work and become fully informed as to the conditions under which the work is to be done. Failure to do so will not be considered sufficient justification to request or obtain extra compensation over and above the contract price.

26A 1-4 MATERIAL AND WORKMANSHIP

Provide all material and equipment new and in first class condition. Provide markings or a nameplate for all material and equipment identifying the manufacturer and providing sufficient reference to establish quality, size and capacity. In general, provide the following quality grade(s) for all materials and equipment:

Commercial Specification Grade

Work performed under this contract shall provide a neat and "workmanlike" appearance when completed, to the satisfaction of the architect and engineer. Workmanship shall be the finest possible by experienced mechanics of the proper trade

The complete installation shall function as designed and intended with respect to efficiency, capacity, noise level, etc. Abnormal or excessive noise from equipment, devices or other system components will not be acceptable.

Remove from the premises waste material present as a result of work. Clean equipment installed under this contract to present a neat and clean installation at the termination of the work.

Repair or replace public and private property damaged as a result of work performed under this contract to the satisfaction of authorities and regulations having jurisdiction.

26A 1-5 MANUFACTURERS

In other articles where lists of manufacturers are introduced, subject to compliance with requirements, provide products by one of the manufacturers specified.

Where a list is provided, manufacturers listed are not in accordance with any ranking or preference.

Where manufacturers are not listed, provide products subject to compliance with requirements from manufacturers that have been actively involved in manufacturing the specified product for no less than 5 years.

26A 1-6 COORDINATION

Coordinate all work with other divisions and trades so that the various components of the systems will be installed at the proper time, fit the available space, and will allow proper service access to those items requiring maintenance. Refer to all other division's drawings, and to relevant equipment submittals and shop drawings to determine the extent of clear spaces. Components which are installed without regard to the above shall be relocated at no additional cost to the owner.

Unless otherwise indicated, the general contractor will provide chases and openings in building construction required for installation of the systems specified herein. Contractor shall furnish the general contractor with information where chases and openings are required. Make all offsets required to clear equipment, beams and other structural members, and to facilitate concealing system components in the manner anticipated in the design. Keep informed as to the work of other trades engaged in the construction of the project, and execute work in a manner as to not interfere with or delay the work of other trades.

Figured dimensions shall be taken in preference to scale dimensions. Contractor shall take his own measurements at the building, as variations may occur. Contractor will be held responsible for errors that could have been avoided by proper checking and inspection

Provide materials with trim that will properly fit the types of ceiling, wall, or floor finishes actually installed. Model numbers listed in the construction documents are not necessarily intended to designate the required trim.

26A 1-7 ORDINANCES, CODES, AND STANDARDS

Work performed under this contract shall, at a minimum, be in conformance with applicable national, state and local codes having jurisdiction. Equipment furnished and associated installation work performed under this contract shall be in strict compliance with current applicable codes adopted by the local AHJ including any amendments and standards as set forth by the National Fire Protection Association (NFPA), Underwriters Laboratories (UL), Occupational Safety and Health Administration (OSHA), American Society of Mechanical Engineers (ASME), American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), American National Standards Institute (ANSI), American Society of Testing Materials (ASTM) and other national standards and codes where applicable. Additionally, comply with rules and regulations of public utilities and municipal departments affected by connection of services.
Where the contract documents exceed the requirements of the referenced codes, standards, etc., the contract documents shall take precedence.

Promptly bring all conflicts observed between codes, ordinances, rules, regulations, referenced standards, and these documents to the engineer's attention for final resolution. Contractor will be held responsible for any violation of the law.

Procure and pay for permits and licenses required for the accomplishment of the work herein described. Where required, obtain, pay for and furnish certificates of inspection to owner. Contractor will be held responsible for violations of the law.

26A 1-8 PROTECTION OF EQUIPMENT AND MATERIALS

Store and protect from damage equipment and materials delivered to job site, in accordance with manufacturers' recommendations. For materials and equipment susceptible to changing weather conditions, dampness, or temperature variations, store inside in conditioned spaces. For materials and equipment not susceptible to these conditions, cover with waterproof, tear-resistant, heavy tarp or polyethylene plastic as required to protect from plaster, dirt, paint, water, or physical damage. Equipment and material that has been damaged by construction activities will be rejected, and contractor shall furnish new equipment and material as required at no additional cost to the owner.

Keep premises broom clean from foreign material created during work performed under this contract. Piping, equipment, etc. shall have a neat and clean appearance at the termination of the work.

Plug or cap open ends of conduits while stored and installed during construction when not in use to prevent the entrance of debris into the systems.

26A 1-9 SUBSTITUTIONS

Include in the base bid the products specifically named in these specifications or on the drawings. Submit, in the form of alternates, with bid, products of any other manufacturers for similar use, provided the differences in cost, if any, are included for each proposed alternate.

No substitutions will be considered with receipt of Bids, unless the Architect and Engineer have received from the Bidder a written request for approval to bid a substitution at least ten calendar days prior to the date for receipt of Bids, and have approved the substitution request. Include, with each such request, the name of the material or equipment for which substitution is being requested, and a complete description of the proposed substitution, including drawings, cut sheets, performance and test data, and all other information necessary for an evaluation. Include also a statement setting forth changes in other materials, equipment or other work that would be required to incorporate the substitution. The burden of proof of the merit of the proposed substitute is upon the proposer. The proposer of any substitutions shall compensate the Engineer at a rate of $150.00 per hour for time spent evaluating proposed substitutions and or the subsequent revisions to the design required to utilize the substitution.

The Architect's or Engineer's decision to approve or disapprove a substitution in a Bid is final.

If the proposed substitution is approved prior to receipt of Bids, such approval will be stated in an Addendum. Bidders shall not rely upon approvals made in any other manner, including verbal.

No substitutions will be considered after receipt of Bids and before award of the Contract.

No substitutions will be considered after the Contract is awarded unless specifically provided in the Contract Documents.

26A 1-10 SUBMITTALS

Assemble and submit to the architect, for engineer's review, manufacturers' product literature for material and equipment to be furnished, installed, or both, under this division, including shop drawings, manufacturers' product data and performance sheets, samples, and other submittals required by this division. Highlight, mark, list or indicate the materials, performance criteria and accessories that are being proposed. Provide the number of submittals required by division 1; however, at a minimum, submit two (2) sets. Before submitting, verify that all materials and equipment submitted are mutually compatible and suitable for the intended use, fit the available spaces, and allow ample and code-required room for access and maintenance. Submittals shall contain the following information. Submittals not so identified will be returned to the contractor without action:

The project name.
The applicable specification section and paragraph.
The submittal date.
The contractor's stamp, which shall certify that the stamped drawings have been checked by the contractor, comply with the drawings and specifications, and have been coordinated with other trades.

Submittals and shop drawings shall not contain HP Engineering's firm name or logo, nor shall it contain the HP Engineering's engineers' seal and signature. They shall not be copies of HP Engineering's work product.

Transmit submittals as early as required to support the project schedule. Allow for two weeks engineer review time, plus mailing time, plus a duplication of this time for re-submittals, if required. The engineer's submittal reviews will not relieve the contractor from responsibility for errors in dimensions, details, size of members, or quantities; or for omitting components or fittings; or for not coordinating items with actual building conditions.

Refer to division 1 for acceptance of electronic submittals for this project. For electronic submittals, contractor shall submit the documents in accordance with the procedures specified in division 1. Contractor shall notify the architect and engineer that the shop drawings have been posted. If electronic submittal procedures are not defined in division 1, contractor shall include the website, user name and password information needed to access the submittals. For submittals sent by e-mail, contractor shall copy the architect and engineer's designated representatives. Contractor shall allow the engineer review time as specified above in the construction schedule. Contractor shall submit only the documents required to purchase the materials and/or equipment in the electronic submittal and shall clearly indicate the materials, performance criteria and accessories being proposed. General product catalog data not specifically noted to be part of the specified product will be rejected and returned without review.

26A 1-11 ELECTRONIC DRAWING FILES

In preparation of shop drawings or record drawings, contractor may, as an option, obtain electronic drawing files in Revit, AutoCAD, or DXF format from the engineer for a fee of $200 for the first sheet and $100 per sheet for each additional sheet. Contact the architect for written authorization; and, contact the engineer to obtain the necessary release agreement form and to indicate the desired shipping method and drawing format. In addition to payment, architect's written authorization and engineer's release agreement form must be received before electronic drawing files will be sent.

26A 1-12 OPERATION AND MAINTENANCE MANUALS

Submit to the architect, for engineer's review, copies each of operations and maintenance instruction manuals, appropriately bound into manual form including approved copies of the following, revised if necessary to show system and equipment as actually installed. Paper clips, staples, rubber bands, and mailing envelopes are not considered approved binders. Provide the number of submittals required by Division 1; however, at a minimum, submit two (2) sets, and include, at a minimum, the following information:

Cover sheet that lists the project name, date, owner, architect, consulting engineer, general contractor, sub-contractor, and an index of contents.
Manufacturers' catalogs and product data sheets
Wiring diagrams
Operation and Maintenance instructions
Parts lists
Approved shop drawings
Test reports as defined in NETA ATS for the systems and equipment provided or furnished or installed under this contract.
Names, addresses, telephone numbers, and e-mail addresses of local contacts for warranty services and spare parts.

Submit manuals prior to requesting the final punch list and before any requests for substantial completion. Final approval of this division's systems installed under this contract will be withheld until this equipment brochure is received and deemed complete by the architect and engineer.

Provide "as-built" drawings (see Division 1 and general conditions).

26A 1-13 TRAINING

At a time mutually agreed upon between the owner and contractor, provide the services of a factory trained and authorized representative to train owner's designated personnel on the operation and maintenance of the equipment provided for this project.

Provide training to include but not be limited to an overview of the system and/or equipment as it relates to the facility as a whole; operation and maintenance procedures and schedules related to startup and shutdown, troubleshooting, servicing, preventive maintenance and appropriate operator intervention; and review of data included in the operation and maintenance manuals.

Submit a certification letter to the architect stating that the owner's designated representative has been trained as specified herein. Letter shall include date, time, attendees and subject of training. The contractor and the owner's representative shall sign the certification letter indicating agreement that the training has been provided.

Schedule training with owner with at least 7 days advance notice.

26A 1-14 WARRANTIES
Warrant each system and each element thereof against all defects due to faulty workmanship, design or material for a period of 12 months from date of substantial completion, unless specific items are noted to carry a longer warranty in the construction documents or manufacturer's standard warranty exceeds this duration. Warranties shall include labor and material. Remedy all defects, occurring within the warranty period(s), as stated in the general conditions and Division 1 without any additional costs to the owner.

Perform any required remedial work promptly, upon written notice from the engineer or owner.

At the time of substantial completion, deliver to the owner all warranties, in writing and properly executed, including term limits for warranties extending beyond the required period, each warranty instrument being addressed to the owner and stating the commencement date and term.

26A 2 ELECTRICAL WORK

26A 2-1 BUILDING OPERATION

Comply with the schedule of operations as outlined in the architectural portions of this specification. Building shall be in continuous operation. Accomplish work that requires interruption of building operation at a time when the building is not in operation, and only with written approval of building owner and/or tenant. Coordinate interruption of building operation with the owner and/or tenant a minimum of 7 days in advance of work.

26A 2-2 EXCAVATION AND BACKFILLING
Perform excavation and backfill required for installation of underground work under this contract. Trenches shall be of sufficient width. Crib or brace trenches to prevent cave-in or settlement. Do not excavate trenches close to columns and walls of building without prior consultation with the architect. Use pumping equipment if required to keep trenches free of water. Backfill trenches in maximum 6" layers of well-tamped dry earth in a manner to prevent future settlement.

Excavation as herein specified shall be classified as common excavation. Common excavation shall comprise the satisfactory removal and disposition of material of whatever substances and of every description encountered, including rock, if any, within the limits of the work as specified and shown on the drawings. Excavation shall be performed to the lines and grades indicated on the drawings. Excavated materials which are considered unsuitable for backfill, and surplus of excavated material which is not required for backfill, shall be disposed of by the contractor at his own expense and responsibility, and to the satisfaction of the architect.

26A 2-3 COINCIDENTAL DAMAGE

Repair all streets, sidewalks, drives, paving, walls, finishes, and other facilities damaged in the course of this work. Repair materials shall match existing construction and or conform to all requirement identified in other divisions. All backfilling and repairing shall meet all requirements of the owner, city and others having jurisdiction. Repair work shall be thoroughly first class.

26A 2-4 CUTTING AND PATCHING

Following the requirements in Division 1, cut walls, floors, ceilings, and other portions of the facility as required to perform work under this division. Obtain permission of the architect, owner, or both, before doing any cutting. Cut all holes as small as possible. Patch walls, floors, and other portions of the facility as required by work under this division. All patching shall be thoroughly first class and shall match the original material and construction, including fire ratings if applicable in a manner satisfactory to the architect.

26A 2-5 ROUGH-IN

Coordinate without delay all roughing-in with other divisions. Conceal all piping and rough-in except in unfinished areas and where otherwise indicated in the construction documents.

26A 2-6 SUPPORT SYSTEMS

1. Steel slotted support systems (slotted channel): comply with MFMA-3, factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch; Cooper B-Line, Erico International Corporation, Hilti, Inc., Power-Strut, Thomas & Betts Corporation, Unistrut.

Finishes:
26A 2-6 SUPPORT SYSTEMS

1. Steel slotted support systems (slotted channel): comply with MFMA-3, factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch; Cooper B-Line, Erico International Corporation, Hilti, Inc., Power-Strut, Thomas & Betts Corporation, Unistrut.

Finishes:
A. Metallic coatings: hot-dip galvanized after fabrication and applied according to MFMA-3
B. Nonmetallic coatings: manufacturer's standard PVC, polyurethane or polyester coating applied according to MFMA-3.
C. Painted coatings: manufacturer's standard painted coating applied according to MFMA-3.
D. Stainless steel: type 304, per ASTM A240.

2. Aluminum slotted support systems (slotted channel): comply with MFMA-3, type 6063-T6, per ASTM B221; factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch; Cooper B-Line, Erico International Corporation, Hilti, Inc., Power-Strut, Thomas & Betts Corporation, Unistrut.

Field Fabrication:

Where field cutting of standard lengths of channel are required, make cuts straight and perpendicular to manufactured surfaces.

For field-cut or damaged surfaces of coated channels, dress cut ends, damaged surfaces, or both, with an abrasive material (e.g., file, grinding stone, or similar) and cleanser to remove oils, rust, sharp edges and shards.

For channel with a factory-applied coating, re-finish cut edges with a coating compatible with the factory finish and as recommended by the manufacturer (e.g., manufacturer's touch-up paint or zinc-rich cold-galvanizing compound, as applicable).

26A 2-7 PENETRATIONS

Coordinate sleeve selection and application with selection and application of fire-stopping specified in Division 7 section "through-penetration firestop systems."

Roofs:

Coordinate all roof penetrations with engineer, owner, and as applicable, the roofing contractor providing a roof warranty.

Keep all raceway penetrations within mechanical equipment curbs wherever possible. Coordinate with all other applicable Division's work.

Flash and counterflash all openings through roof, and/or provide pre-fabricated molded seals compatible with the roof construction installed, or as required by the engineer, owner, or roofing contractor. All roof penetrations shall be leak-tight at the termination of the work and shall not void any new or existing roof warranties.

Walls and Floors:

Sleeves for raceways and cables

Steel pipe sleeves: ASTM A 53/A 53M, type E, grade B, schedule 40, galvanized steel, plain ends and drip rings.
Cast-iron pipe sleeves: cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

Sleeves for rectangular openings: galvanized sheet steel with minimum 0.138 inch thickness and of width and length to suit application.

26A 2-8 FIRE-STOPPING THROUGH PENETRATIONS

Fire-resistant through penetration sealants: two-part, foamed-in-place, silicone sealant formulated for use in through-penetration fire-stopping around cables, raceways, and cable tray penetrations through fire-rated walls and floors. Sealants and accessories shall have fire-resistance ratings indicated, as established by testing identical assemblies in accordance with ASTM E 814, by underwriters' laboratories, inc., or other NRTL acceptable to AHJ.

Acceptable manufacturers:

Hilti, Inc.
3m Corp.
Rectorseal.
Specify Technology Inc.
United States Gypsum Company.

Submittals

Submit product data, manufacturer's specifications and technical data for each material including the composition and limitations, documentation of UL firestop systems to be used and manufacturer's installation instructions to comply with Division1.

Manufacturer's engineering judgment identification number and drawing details when no UL system is available for an application. Engineering judgment shall include both project name and contractor's name who will install firestop system as described in drawings.

Submit material safety data sheets provided with product delivered to job-site.

26A 2-9 CONCRETE BASES

Provide concrete bases (e.g., housekeeping pads) for equipment where indicated on the drawings and as specified herein. Concrete bases shall have chamfered edges. Size of base shall be a minimum of 2 inches greater than the footprint of the equipment that it is supporting.

Construct equipment bases of a minimum 28-day, 4000-psi concrete conforming to American Concrete Institute standard building code for reinforced concrete (ACI 318-99) and the latest applicable recommendations of the ACI standard practice manual. Concrete shall be composed of cement conforming to ASTM C 150 type I, aggregate conforming to ASTM C33, and potable water. Exposed exterior concrete shall contain 5 to 7 percent air entrainment.

Unless otherwise specified or shown on the structural drawings, reinforce equipment bases with no. 4 reinforcing bars conforming to ASTM A 615 or 6x6 – w2.9 x w2.9 welded wire mesh conforming to ASTM A185. Place reinforcing bars 24 inches on center with a minimum of two bars each direction.

Provide galvanized anchor bolts for equipment placed on concrete bases or on concrete slabs. Anchor bolts size, number and placement shall be as recommended by the manufacturer of the equipment.

Concrete equipment bases shall have a minimum height of 4 inches and shall be poured-in-place.

26A 2-10 ACCESS DOORS

Provide access doors in ceilings and walls, where indicated or required for access or maintenance to concealed equipment installed under this section. Provide concealed hinges, screwdriver-type lock, and anchor straps.

Manufactured by Milcor, Zurn, Titus, or equal. Obtain architect's approval of type, size, location and color before ordering.

26A 2-11 EQUIPMENT FURNISHED BY OTHERS

Provide necessary equipment and accessories that are not provided by the equipment supplier or owner to complete installation of equipment furnished by others, in locations as indicated on the drawings, specified herein, or both. Equipment and accessories not provided by the equipment supplier may include such items as flexible cords and plugs, as required for proper operation of the complete system, in accordance with the manufacturers' instructions.

Be responsible for correct rough-in dimensions, and verify them with engineer, owner's representative, equipment supplier, or all three, prior to rough-in and service installations.

26A 2-12 CLEANING

In addition to the requirements of Division 1, remove from the premises dirt and refuse resulting from the performance of the electrical work, as required, to prevent accumulation. Cooperate in maintaining reasonably clean premises at all times. Immediately prior to final inspection, make a final cleanup of dirt and refuse resulting from the work. Clean all material and equipment installed under this division. Remove dirt, dust, plaster, stains and foreign matter from all surfaces. Touch up and restore all damaged finishes to their original condition.

26A 2-13 ADJUSTING, ALIGNING AND TESTING

Adjust, align, and test all electrical equipment on this project provided under this division and all electrical equipment furnished by others for installation or wiring under this division, for proper operation.

Test all systems and equipment according to the requirements in NETA ATS (latest edition) and all additional requirements specified in following sections.

Maintain the following on the project premises at all times: a true RMS reading voltmeter, a true RMS reading ammeter, and a megohmmeter insulation resistance tester. Provide test data readings as requested or as required by the engineer.

26A 2-14 EQUIPMENT IDENTIFICATION

Provide equipment identification nameplates:

- On all panelboards, switches, starters, dimmers, switches in distribution panelboards and switchboards as well as where indicated elsewhere in the construction documents.

Nameplates:

Engraved, contrasting color, three-layer, laminated plastic indicating the name of the equipment, load, or circuit as designated on the drawings and in the specifications:

- Field-applied permanent epoxy adhesive, compatible with the equipment finish.
- Attachment method shall be acceptable to the manufacturers of the equipment to which the nameplates are being applied.

Color: black background with white letters for normal power; red background with white letters for emergency power. Letter height: ½ -inch minimum.

26A 2-15 SYSTEM START UP

Prior to starting up the electrical systems:

Check all components and devices.

Lubricate items accordingly.

Tighten screws and bolts for connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486a and UL 486b.

Adjust taps on each transformer for rated secondary voltage when the transformer is at minimum load.

Check and record building's service entrance voltage, grounding conditions, grounding resistance, and proper phasing.

Replace all burned-out lamps and lamps used for temporary construction lighting in permanent light fixtures.

After all systems have been inspected and adjusted, confirm all operating features required by the drawings and specifications and make final adjustments as necessary.

26A 4 ALTERNATES

Provide all work contemplated under the different alternates to include labor, materials, equipment and services necessary for
and incidental to the completion of work under each particular alternate. Furnish separate bids for each alternate applicable to
contractor's proposal, stating the amount to be added or deducted from the base bid in case the alternate is accepted. Comply
with applicable sections of the base specifications for work required by the alternate unless otherwise specified.
Refer to the
architectural portion of the specification.

END OF SECTION 26A



CA5338(PE)



CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

ELECTRICAL SPECIFICATIONS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE
△		

PLAN SCALE: AS SHOWN
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	RG	11/20/20	APPROVED:
DESIGNED	JB	11/20/20	
SURVEY			
PROJ MGR.			
LEAD MGR.	BOC	11/20	
FIELD MGR.			
RECOMMENDED: DESIGN MANAGER	HHS	11.20	CITY ENGINEER

FILE: DRAWING: E401 DATE: 11/20/2020

ATLAS PAGE NO.: 35 SHEET 68 OF 69 SHEETS

26B BASIC ELECTRICAL MATERIALS AND METHODS
rev - 20150520

26B 1 METHODS

26B 1-1 RACEWAYS

Metallic Conduit And Tubing:

Electrical Metallic Tubing and fittings (EMT): ANSI C80.3, UL 797.
Reduced wall EMT is not allowed.
Flexible Metal Conduit (FMC): zinc-coated steel or aluminum, UL 1.
Reduced-wall FMC is not allowed.
Intermediate Metal Conduit (IMC): hot-dip galvanized rigid steel conduit: ANSI C80.6, UL 1242.

Liquidtight Flexible Metal Conduit (LFMC): flexible steel conduit with PVC jacket: UL 360

Rigid Metal Conduit (RMC): hot-dip Galvanized Rigid Steel conduit (GRS): ANSI C80.1, UL 6.
Plastic-coated IMC, RMC, and fittings: NEMA RN 1, UL listed.

IMC and RMC fittings: NEMA FB 1; compatible with conduit type and material, UL listed

Non-Metallic Conduit And Tubing:

Rigid Nonmetallic Conduit (RNC): schedule 40 PVC, 90 deg C rated, NEMA TC-2, UL 651; fittings: NEMA TC 3, TC 6; UL 514, compatible with conduit/tubing type and material, UL listed.

26B 1-2 RACEWAY INSTALLATION

Above Ground Use:
Install all circular raceways concealed above suspended ceilings or concealed in walls or floors wherever possible except where otherwise indicated.

Provide GRS for all conduits run exposed to weather, or exposed to other hazardous conditions.

All other raceway may be EMT where approved by local code. Use compression type fittings for EMT, with all fittings UL listed for the environment in which they are used.

Underground use:
Provide GRS installed below grade with a corrosion resistant bonded-plastic or approved mastic coating. This shall include the 90-degree elbow below grade and the entire vertical transition to above grade.
RNC conduit may be used underground where permitted by local code and where not specifically restricted by these documents. When used, provide coated GRS, as specified above, for all bends greater than 30 degrees, including the 90-degree elbows below grade and the entire vertical risers for transitions from below to above grade or above-slab.
Equipment Connections:
Use FMC for final connection to each motor and transformer, and to any device that would otherwise transmit motion, vibration, or noise. Use LFMC where exposed to liquids, vapors or sunlight, and to connect to kitchen and food service equipment. Provide all FMC and LFMC with an insulated bonding conductor.

Use only metal raceways for all power wiring from the output of variable frequency drives to their respective motors.

General Raceway Installation Requirements:
Install raceways parallel and perpendicular to building lines.

Install raceways to requirements of structure and to requirements of all other work on the project; to clear all openings, depressions, pipes, ducts, reinforcing steel, and other immovable obstacles.

Install raceways set in forms for concrete structure in such a manner that installation will not affect the strength of the structure.

Except where approved in writing by the engineer, install no raceway in a slab-on-grade. Locate raceway in granular fill below slabs-on-grade.

Install raceways continuous between connections to outlets, boxes and cabinets with a minimum possible number of bends and not more than the equivalent of four 90-degree bends between connections. Use manufactured elbows for all 45- and 90-degree bends, unless approved by the engineer in advance. Make other bends smooth and even and without flattening raceway or flaking galvanizing or enamel. Radii of bends shall be as long as possible and never shorter than the corresponding trade elbow.

Use long radius elbows for all underground installations, where necessary or indicated.

Securely fasten raceways in place with approved straps, hangers and steel supports as required. Attach raceway supports to the building structure. Hang single raceways for feeders with malleable split ring hangers with rod and turnbuckle suspension from inserts spaced not over 10 feet apart in construction above. Clamp groups of horizontal feeder raceways to steel channels that are suspended from inserts spaced not over 10 feet apart in construction above. Securely clamp vertical feeder raceways to structural steel members attached to structure. Install cable clamps for support of vertical feeders where required. Add raceway supports within 12 inches of all bends, on both sides of the bends. Do not support raceways from suspended ceiling components.

Ream raceway ends, thoroughly clean raceways before installation, and keep clean after installation. Plug or cover openings and boxes as required to keep raceways clean during construction and fish all raceways clear of obstructions before pulling conductors. Provide raceways of ample size for pulling of wire and not smaller than code requirements and not less than 1/2-inch in size, unless indicated otherwise on drawings.

Protect all raceway installations against damage during construction. Repair all raceways damaged or moved out of line after roughing-in to meet engineer's approval without additional cost to the owner.

Align and install true and plumb all raceway terminations at panelboards, switchboards, motor control equipment and junction boxes.

Install approved expansion/deflection fittings where raceways pass through (if embedded) or across (if exposed) expansion joints. Also when using RNC or RAC in exposed environments in accordance with the NEC and expansion/contraction properties of RNC or RAC.

Install a pull wire in each empty raceway that is left for installation of conductors or cables under other divisions or contracts. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 24 inches of slack at each end of pull wire.

Make all joints and connections in a manner that will ensure mechanical strength and electrical continuity.

Raceways penetrating freezer and cooler walls:

Effectively seal raceways, by installing a conduit fitting at the boundary of the two spaces, and filling it with an approved pliable material, after conductors or cables have been installed and tested, when ever:

Raceways pass from non-cooled to cooled spaces.

Raceways transition from outside a facility or enclosure to inside, whether buried or exposed

26B 1-3 BUSHINGS AND LOCKNUTS

Rigidly terminate conduits entering sheet metal enclosures to the enclosure with a bushing and locknut on the inside and a locknut or an approved hub on the outside. Conduit shall enter the enclosure squarely.

Provide bushings and locknuts made of galvanized malleable iron with sharp, clean-cut threads.

Where EMT enters a box, provide approved EMT compression connectors.

Use insulated, grounding, or combination, bushings wherever connection is subject to vibration or moisture, when required by NFPA 70, or both.

26B 1-4 CONDUCTORS AND CABLES

Conductor Material:
Annealed (soft) copper complying with ICEA S-95-658/NEMA WC70;

Conductor insulation types: 90-degree C-rated, type THHN/THWN-2 or XHHW-2 complying with ICEA S-95-658/NEMA WC70.

Sizes of conductors and cables indicated or specified are in American Wire Gage (AWG - brown and sharpe).

All feeder and branch circuit conductors no. 8 AWG and larger: stranded.

All conductors, no. 10 AWG and smaller: solid copper

All branch circuit wiring: not smaller than no. 12 AWG. If no conductor size is indicated on the drawings for a branch circuit, provide conductors and conduit sized per NFPA 70 and based on the indicated branch circuit overcurrent protective device (OCPD) rating and number of poles. Where no circuit size (i.e., conductors and OCPD) is indicated on the drawings for a branch circuit, provide three no. 12 AWG conductors, in 1/2-inch raceway, and a 20a circuit breaker.

Control wiring: stranded copper conductors, 600v insulation, of the proper type, size and number as required to accomplish specified function. Minimum size: no. 14 AWG, unless noted otherwise.

Stranded for all flexible cords and cables, or as otherwise indicated.

Unless indicated otherwise, special purpose conductors and cables, such as low voltage control and shielded instrument wiring, shall be as recommended by the system equipment manufacturer.

Type MC cable: 600v, unjacketed; ANSI E119 and E814, UL standards 44 or 83 (as applicable), and 1569, NFPA 70 article 330; aluminum or galvanized steel interlocked armor; THHN- or XHHW-insulated conductors; color code: ICEA method 1, with green insulated grounding conductor

26B 1-5 INSTALLATION OF CONDUCTORS AND CABLES

Install all wiring in approved raceway and enclosures
Support all conductors and cables in vertical installations, as required by NFPA 70, by installing cable supports or plug-type conduit riser supports, or wire-mesh safety grips.

Install all conductors and cable in raceways continuous without taps or splices. Splice or tap only in approved boxes and enclosures with approved solderless connectors, or crimp connectors and terminal blocks for control wiring, and keep to the minimum required. Insulate all splices, taps, and joints as required by codes.

All materials used to terminate, splice or tap conductors: designed for, properly sized for, and UL listed for the specific application and conductors involved, and installed in strict accordance with the manufacturer's recommendations, using the manufacturer's recommended tools.

Where wiring is indicated as installed, but the connection is indicated "future" or "by other division, trades, or contracts", leave a minimum 3-foot "pigtail" at the box, tape the ends of the conductors, and cover the box.

The number of conductors in a specific raceway "home run" is typically indicated with cross lines (tick marks) on each "circuit run" on the drawings. In general, the direction of branch circuit "home run" routing is indicated on the drawings, complete with circuit numbers and panelboard designation. Continue all such "home run" wiring to the designated panelboard, as though "circuit runs" were indicated in their entirety.

Multi-wire branch circuits (i.e., shared neutral) shall be provided with a means that will simultaneously disconnect all ungrounded conductors at the point the branch circuit originates. Multi-pole breakers or 3 single pole breakers with a handle tie are two examples.

When multiple home runs are combined into a single raceway such that the number of conductors exceeds four (conductor count is made up of any combination of phase and neutral conductors), the following restrictions apply, which are in addition to those in NFPA 70:

NORMAL or NON-ESSENTIAL CIRCUITS:

Maximum of 16 conductors in a single raceway. For up to eight conductors in a raceway, minimum raceway size: 3/4-inch. For greater than eight conductors, minimum raceway size: 1-inch. Do not install any other type of circuit in this raceway.

The minimum wire size for all conductors in this raceway: no. 10 AWG.

Only 15a and 20a branch circuit homeruns may be combined into one raceway.

ISOLATED GROUND (IG) CIRCUITS:

The Isolated Ground conductor of each IG circuit shall be continuous (no splices) the entire length of the circuit.

IG circuits shall be provided with dedicated neutrals, equipment grounds, and isolated grounds and routed in separate conduits from other circuits.

GFCI CIRCUITS:

Do not use multi-conductor circuits, with a shared neutral, for any GFCI circuit breaker or receptacle circuit.

For branch circuits fed from GFCI circuit breakers, limit the one-way conductor length to 100 feet between the panelboard and the most remote receptacle or load on the GFCI circuit

Properly identify all terminal blocks and wire terminals for control wiring with vinyl stick-on markers or equivalent. Provide engineer with a list of proposed identifying numbers for review prior to installing markers.

Provide an equipment-grounding conductor, or bonding jumper, as applicable, in all feeders and branch circuits, sized in accordance with NFPA 70 tables 250.66 or 250.122, as applicable, unless indicated as larger on the drawings.

Voltage drop in branch circuits shall not exceed 3 percent.

Wiring shall have insulation of the proper color to match color code system in the table below unless there is a color system currently in use by the facility, in which case the colors are to match the existing system. In larger sizes, where properly colored insulation is not available, use vinyl plastic electrical tape of the appropriate color around each conductor at all termination points, junction and pull boxes

System Voltage
240v and under – 208y/120, 120/240, 120/208, 240d/120
Phase A – black, phase B – red, phase C – blue, neutral – white, equipment ground green, isolated ground – green w/yellow stripe.

Use of MC Cable, May Only Be Used:

In lieu of flexible conduit and wiring from light fixtures in accessible ceilings to junction boxes (attached to building structure) above the ceiling. Provide cable whips of sufficient lengths to allow for relocating each light fixture within a 5-foot radius of its installed location, but not exceeding 6 feet in unsupported lengths.

For vertical drops in stud walls.

In lieu of EMT, only for 15a and 20a branch circuits (with up to four (4) conductors, not including ground conductor), and only in dry concealed locations above grade, except where specifically not permitted by NFPA 70.

Do Not Use MC Cable For The Following:

Homeruns to panelboards.

Where exposed to view.

Where exposed to damage.

Hazardous locations.

Wet locations.

When restricted otherwise above, and when specifically disallowed by the local AHJ, landlord, or both.

26B 1-6 JUNCTION BOXES, PULL BOXES, CABINETS AND WIREWAYS

Provide junction boxes, pull boxes, cabinets and wireways wherever necessary for proper installation of various electrical systems according to NFPA 70 and where indicated on the drawings. Size as required for the specific function or as required by NFPA 70, whichever is larger. Construction shall be of a NEMA design suitable for the environment installed.

Junction boxes installed behind wall cases, and in or on other display fixtures, except where otherwise specified, shall be 4-inch square or larger, with galvanized covers.

26B 1-7 OUTLET BOXES

All outlets including light fixture, switch, receptacle, and similar outlets: National Electrical, Appleton, Steel City, Raco, or approved equal, galvanized steel knockout boxes, suitable in design to the purpose they serve and the space they occupy. Size as required for the specific function or as required by NFPA 70, whichever is larger. Set all outlet boxes in walls, columns, floors, or ceilings so they are flush with the finished surface, accurately set, and rigidly secured in position. Provide plaster rings, extension rings and/or masonry rings as required for flush mounting. Provide approved cast outlet boxes, with hubs and weatherproof covers, in all areas subject to damp, wet, or harsh conditions.

26B 1-8 OUTLET LOCATIONS

Coordinate locations of outlet boxes. Outlets are only approximately located on the small scale drawings. Use great care in the actual location by consulting the various large scale detailed drawings used by other division trades, and by securing definite locations from the architect and/or engineer.

26B 1-9 MOUNTING HEIGHTS

Unless noted otherwise, install wiring devices as indicated below (note: all dimensions are to the bottom of the outlet box unless noted otherwise):

Receptacles:
Vertically aligned with the ground slot mounted at the bottom: 16 inches above finished floor.
Horizontally aligned, with neutral slot mounted at the top: 16 inches above finished floor.
For above counters: 6 inches above top of counter or as specified by others.
Mechanical and electrical equipment rooms and janitors closets: 44 inches above finished floor, vertically aligned.
Garages: 24 inches above finished floor, vertically aligned
Weatherproof exterior receptacles: 24 inches above finished grade or as indicated on drawings, vertically aligned.
GFCI receptacles: same as general receptacles

Isolated ground receptacles: same as general receptacles

SPD receptacles: same as general receptacles
Clock receptacles: 84 inches above finished floor or as specified by others.

26B 1-10 WIRING DEVICES

Unless noted otherwise on the drawings wiring devices are 20a rated devices. Where 15a rated devices are indicated on the drawings or required for circuit rating limitations, provide wiring devices equivalent to those specified for 20a, but rated for 15a.

Provide the following wiring devices where shown on drawings or required. Minor changes relative to the location of electrical equipment may be made to comply with structural and building requirements as determined in the course of construction. Provide all wiring devices of the same manufacturer and not mixed on the project, to the maximum extent possible. Provide color of toggles and receptacles as requested by the engineer:

Duplex convenience receptacles: Specification grade, NEMA 5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self grounding, manufactured by Leviton or approved equivalent.
Hospital Grade straight blade receptacles: NEMA 5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self-grounding, manufactured by Leviton or approved equivalent.
Hospital Grade straight blade safety type, tamper-resistant receptacles: NEMA 5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self-grounding, manufactured by Leviton or approved equivalent.
Twist-Locking type receptacles: NEMA L5-20R, 125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, self-grounding, Leviton 2310 or approved equivalent.

Ground fault circuit interrupter type receptacles: Specification Grade
UL listed and labeled complying with UL 943, Class A and NEMA WD-1-1.10, 125V, 20A, trip at 4-6mA within 0.25 second, and feed-thru type with integral heavy duty NEMA 5-20R receptacle arranged to protect receptacles downstream on the same circuit, manufactured by Leviton or approved equivalent

Isolated ground receptacles: Specification Grade NEMA 5-20R NEMA L5-20R,
125V, 20A, grounding type, UL listed and labeled, nylon face, side and back wired, furnished with a green pigtail connected to the grounding contact, and grounding contacts electrically isolated from the mounting strap, manufactured by Leviton or approved equivalent.

TVSS receptacles Specification Grade for 125V (150V maximum continuous operating voltage) service: NEMA 5-20R, 125V, 20A, self-grounding type, RFI/EMI noise filtering, UL listed 1449 Second Edition (1998) & 489; equipped with LED indicator(s) and audible alarm, manufactured by Leviton or approved equivalent.
Suppression module shall protect normal and common modes, with the following mode characteristics, and be suitable for ANSI/IEEE C62.41-1991 A, B installations:

Peak Energy	240 joules minimum
Peak Current	13,000A minimum
UL 3000A Test	400V minimum
Response Time	5 nano-seconds

Special Warranty: Manufacturer agrees to repair or replace TVSS receptacles, or replaceable surge modules (if removable), that fail in materials or workmanship within 5 years from date of Substantial Completion.
Special purpose receptacles: Grounding type, UL listed with NEMA configurations as implied on the Drawings, manufactured by Leviton or approved equivalent.
Switches: Specification grade, rated for 120/277V, 20A, back and side wired, and UL listed and labeled, manufactured by Leviton or approved equivalent.

26B 1-11 SWITCH AND OUTLET COVER PLATES

Switch and outlet plates: colored, smooth nylon; by the same manufacturer as the wiring devices, wherever possible. Verify desired materials and colors with architect and/or engineer before installation. Switch plates in unfinished rooms and spaces: stamped steel, cadmium plated. Install groups of switches under one ganged-plate, usually horizontally; or, where required by details, vertically. Set all cover plates plumb, parallel, and finished flush with the wall.

26B 1-12 WEATHERPROOF COVER PLATES

For exterior unattended, wet locations or other locations as indicated: in-use NEMA 3R recessed or flush mount, UL-labeled plates molded from a clear high impact ultraviolet stabilized polycarbonate material for easy verification that cords are plugged in and that the GFCI is functioning. Back box must be suitable for conduit connecting. Coordinate back box with wall depth. Intermatic WP1000RC/HRC or equal.

For attended wet or damp locations: weatherproof cover plates, UL-listed for wet locations with cover(s) closed; die-cast aluminum or type 302 stainless steel; single-cover for switches and vertically mounted receptacles; double-cover for horizontally mounted receptacles; self-closing covers.

Cover plates: by the same manufacturer as the wiring devices; complying with NFPA 70 406.8 (A) or (B) requirements for attended or unattended use as applicable.

26B 2 ELECTRICAL SERVICE AND GROUNDING

26B 2-1 ELECTRICAL SERVICE

See drawings for type, size, voltage, phase, and other requirements.

Provide, or arrange with the serving utility for installation to provide, a recording voltmeter at the service point, on the first day the facility is open for business, for a 24-hour voltage test. If voltage and regulation are not within acceptable limits, arrange with the utility for proper voltage. Submit to the owner a report of maximum and minimum voltage and a copy of the recording voltmeter chart.

26B 2-2 CONNECTION TO SERVING UTILITIES

Provide raceways, terminations, metering provisions, and miscellaneous equipment, as required, for electrical and telephone services for connection by the serving utility, in strict compliance with the requirements of all applicable codes and of the serving utility involved. Verify all service terminations and connection points in the field and work in conjunction with the utility involved in the installation of all services. Provide all materials and equipment required for complete utility connection but not furnished by the serving utility. Notify the utility companies involved within two weeks after notice to proceed, of all required information necessary for the utility to supply the project without delay. Pay all charges of the serving utility for the electrical service(s).

26B 2-3 GROUNDING

Permanently and effectively ground and bond the electrical installation in a thorough and efficient manner, and in conformance, at a minimum, with NFPA 70, or these documents, where they exceed code requirements. Use bare or insulated conductors, as specified herein, and other materials indicated on the drawings.

26B 3 DISTRIBUTION AND CONTROL EQUIPMENT

26B 3-3 SERVICE ENTRANCE CIRCUIT BREAKER – ENCLOSED, 100A – 6000A

Enclosed circuit breaker: Square D micro-logic and thermal magnetic type or equal by Siemens, Cutler-Hammer, or General Electric; rated at 100% of the ampere size indicated, number of phases and other ratings as indicated on the drawings; permanently labeled as suitable for use as service entrance equipment; integral ground fault relay and operator where indicated or required by NFPA 70; interlocked cover and an engraved nameplate for identification. Provide with integral and separate neutral and ground assemblies, suitable for the sizes of conductors indicated. Do not double-lug any terminations not specifically listed as suitable for more than one conductor. Enclosure: NEMA design suitable for the environment in which installed or as indicated.

26B 3-7 GENERAL PURPOSE PANELBOARDS

Panelboards: Square D type NQOD or NF, as applicable, based on voltage and ampere ratings and required short-circuit interrupting ratings as required unless otherwise indicated on the drawings, or approved equal by Siemens, Cutler Hammer, or General Electric; complete with bolt-on thermal magnetic, molded case circuit breakers assembled in a dead-front finished cabinet containing a typewritten card directory indicating exactly what each circuit breaker controls; main circuit breaker shall be rated at 100% of the ampere size indicated, fully-rated and with the integrated short circuit current ratings as required. Plug-in type breakers will not be acceptable. All two and three pole breakers: common trip type. Breakers used as switches for 120v or 277v lighting circuits: approved for the purpose and marked "SWD". Breakers used for the protection of HVAC and refrigeration equipment: HACR type.

26B 3-11 DISCONNECT (SAFETY) SWITCHES

Disconnect (safety) switches: Square D, Siemens, Cutler Hammer, or General Electric fused or non-fused (as indicated on drawings or required) NEMA KS1, heavy duty, externally operated, visible-blade safety switches; NEMA enclosure type indicated on the drawings or suitable for the environment in which installed. Based on fusible switch and fuse sizes indicated, include class R, J, or I fuse provisions as applicable.

Where indicated, provide fusible switches permanently labeled as suitable for use as service entrance equipment, with integral and separate neutral and ground assemblies, suitable for the sizes of conductors indicated. Do not double-lug any terminations not specifically listed as suitable for more than one conductor.

Provide switches where not furnished with the starting equipment, at all other points required by NFPA 70, and where indicated on the drawings.

26B 5 MISCELLANEOUS ELECTRICAL

26B 5-1 WIRING OF EQUIPMENT

Provide all raceways and power wiring for all applicable Divisions equipment requiring electrical connections, including, but not limited to, pumps, water heaters, and HVAC equipment, and all line-voltage control and interlock wiring not provided under other Divisions. Connect per manufacturers' wiring diagrams. Coordinate with applicable Divisions for disconnects furnished with equipment, and provide all disconnect switches as required. After installing wiring, verify that each motor load has the correct phase rotation.

Verify the actual "maximum overcurrent protection" (MOCP) device ratings and "minimum circuit ampacity" (MCA) conductor sizing for mechanical equipment from the equipment nameplate. Base electrical installations on actual required amperages, which may vary somewhat from the conductor and equipment sizes shown on the drawings; however, in no case, reduce the size of conductors indicated on the drawings without authorization from the engineer. Provide properly sized electrical wiring and equipment without extra cost to the owner. Notify the engineer of all changes required in the electrical installation due to equipment variances so that the effects on feeders, branch circuits, panelboards, fuses and circuit breakers can be checked prior to purchasing and installation. Be responsible for coordinating with applicable Divisions to verify the actual ampacities and correct sizes of all conductors and overcurrent protective devices for all equipment, and correct overload heaters for all motors, when starters are provided under Division 26.

LICENSED PROFESSIONAL ENGINEER
JEFF BAYS
28075
OKLAHOMA
CA5338(PE) 11-18-2020

BEFORE YOU DIG
811
1-866-522-OKIE
CALL OKIE

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES

ELECTRICAL SPECIFICATIONS

RIVER WEST CNI PUBLIC IMPROVEMENT CONTRACT 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
wallace
WALLACE ENGINEERING
STRUCTURAL CONSULTANTS INC.
123 N. MARTIN LUTHER KING JR. BLVD.
TULSA,OK 74103
(918) 584-5858

REVISION	BY	DATE
△		

PLAN SCALE: AS SHOWN
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	RG	11/20/20
DESIGNED	JB	11/20/20
SURVEY		
PROJ MGR.	[illegible]	11/2020
LEAD MGR.	BDC	11/20
FIELD MGR.		
RECOMMENDED:	HMS	11.20
DESIGN MANAGER		

APPROVED:
CITY ENGINEER

FILE: DRAWING: E402
DATE: 11/20/2020
ATLAS PAGE NO.: 35
SHEET 69 OF 69 SHEETS